ORDER NO. AD8904092C0
A2

Service Manual

Cassette Deck

Dolby NR-Equipped Stereo Double Cassette Deck

RS-TR355

Color

(K)... Black Type
(S)... Silver Type

DOLBY B·C NR HX PRO*

Area

Country Code	Area	Color
(P)	U.S.A.	(K)
(PC)	Canada.	(K)
(E, E5)	Continental Europe.	(K) (S)
(EB)	Great Britain.	(K) (S)
(EG)	F.R.G. and Italy (West Germany).	(K) (S)
(GC)	Saudi Arabia.	(K)
(GN)	New Zealand.	(K)

SPECIFICATIONS

■ CASSETTE DECK SECTION

Deck system Stereo cassette deck
Track system 4-track, 2-channel
Heads
(tape deck 1) Play Permalloy head
(tape deck 2) Rec/play Permalloy head
Erasing Double-gap ferrite head
Motors
(tape deck 1) Capstan/reel table drive DC servo motor
(tape deck 2) Capstan/reel table drive DC servo motor
Recording system AC bias
Bias frequency 80 kHz
Erasing system AC erase
Tape speed 4.8 cm/sec. (1-7/8 ips)
Frequency response (w/o Dolby NR) (Except P, PC Areas)
NORMAL 20Hz~18kHz
20Hz~17kHz (DIN)
CrO_2 20Hz~18kHz
20Hz~17kHz (DIN)
METAL 20Hz~19kHz
20Hz~18kHz (DIN)
Frequency response (w/o Dolby NR) (P, PC Areas)
NORMAL 20Hz~18kHz
CrO_2 20Hz~18kHz
METAL 20Hz~19kHz
S/N (signal level = max recording level, CrO_2 type tape)
Dolby C NR on 74 dB (CCIR)
Dolby B NR on 66 dB (CCIR)
Dolby NR off 56 dB (A weighted)
Wow and flutter (Except P, PC Areas) 0.07 % (WRMS)
±0.2 % (DIN)
Wow and flutter (P, PC Areas) 0.1 % (WRMS)
Fast forward and rewind times
Approx. 110 seconds with C-60 cassette tape
Input sensitivity and impedance
LINE 60 mV/47 kΩ
Output voltage and impedance
LINE 400 mV/800 Ω
HEADPHONES 30 mV/8 Ω
LOAD IMPEDANSE (8 Ω~600 Ω)

■ GENERAL

Power consumption 15 W
Power supply
For U.S.A. and Canada AC 120V, 60Hz
For Great Britain and New Zealand AC 240V, 50/60Hz
For Saudi Arabia AC 110V/127V/220V/240V, 50/60Hz
For others AC 220V, 50Hz/60Hz
Dimensions (W × H × D) 430 × 136 × 290 mm
(16-15/16" × 5-3/8" × 11-13/32")
Weight 4.8 kg (10.6 lb.)

Note:
Specifications are subject to change without notice.
Weight and dimensions are approximate.

* HX Pro headroom extension originated by Bang Olufsen and manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY", the double-D symbol, and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

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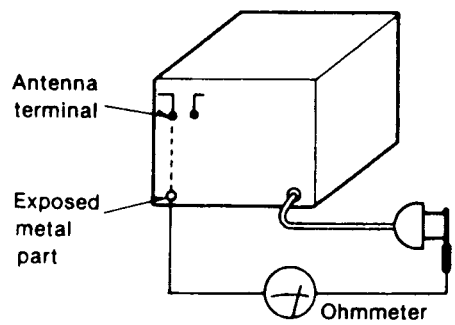
■ SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

• INSULATION RESISTANCE TEST

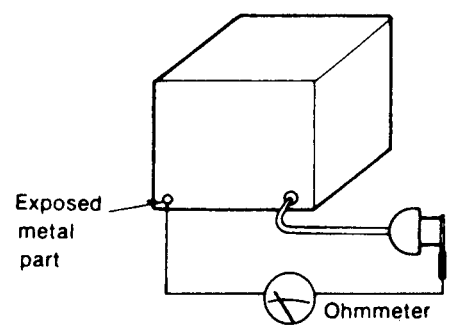
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.



(Fig. A)

Resistance = 3MΩ—5.2MΩ



(Fig. B)

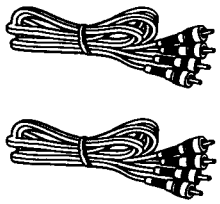
Resistance = Approx ∞

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

D

■ ACCESSORIES

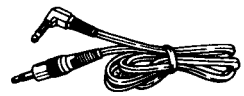
- Stereo connection cables..... 2
  [RFA006]



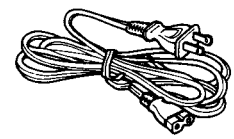
- AC plup adaptor..... 1
  [SJP9215: (GC)]

- Stereo mini cables 2
  [SJP2257T: (P.PC only)]
  (Remote control cable..... 1)

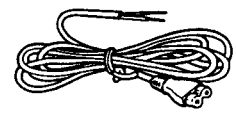
(Synchro edit cable ..... 1)



- AC power supply cord (polarized).... 1
  [SJA175-1: (P), SJA175: (PC),
  SFDAC05E03: (E, E5, EG),
  SJA173-1: (GN), RJA0004: (GC)]



[SJA193-1: (EB)]



■ HOW TO CONNECTION (Example P.PC areas)

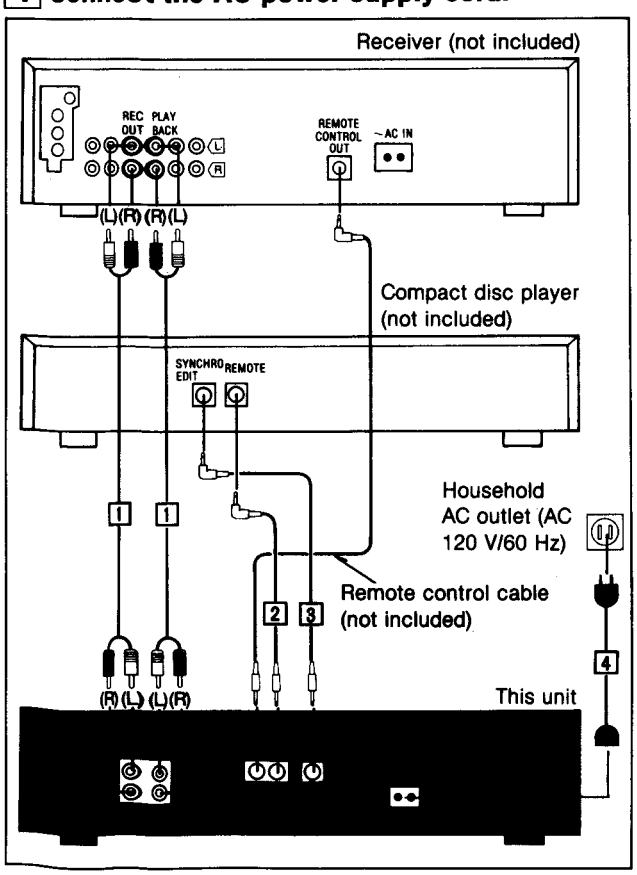
Make connections in the numbered sequence by using the included cables.

1 Connect the stereo connection cables.

2 Connect the remote control cable.

3 Connect the synchro edit cable.

4 Connect the AC power supply cord.



The illustration at the left shows an example of connections made when this unit is combined with a Technics hi-fi component system, and shows only the connections to be made to and from this unit in that combination.
Refer to the illustration together with the instructions provided below.

REMOTE CONTROL "IN" terminal

This terminal can be used only with Technics receivers or amplifiers having the appropriate remote-control terminal.
(Contact your dealer for details.)

The following functions can be operated by remote-control (When connected to the appropriate Technics amplifier or receiver): Playback, Stop, Pause, Fast-forward/cue, Rewind/review, Record, Auto record mute, and 2-1 deck selection.

REMOTE CONTROL "OUT" terminal

This terminal can be used only with Technics graphic equalizer or compact disc players having the appropriate remote-control terminal.
(Contact your dealer for details.)

"SYNCHRO EDIT" terminal

This terminal can be used only with selected Technics compact disc players.

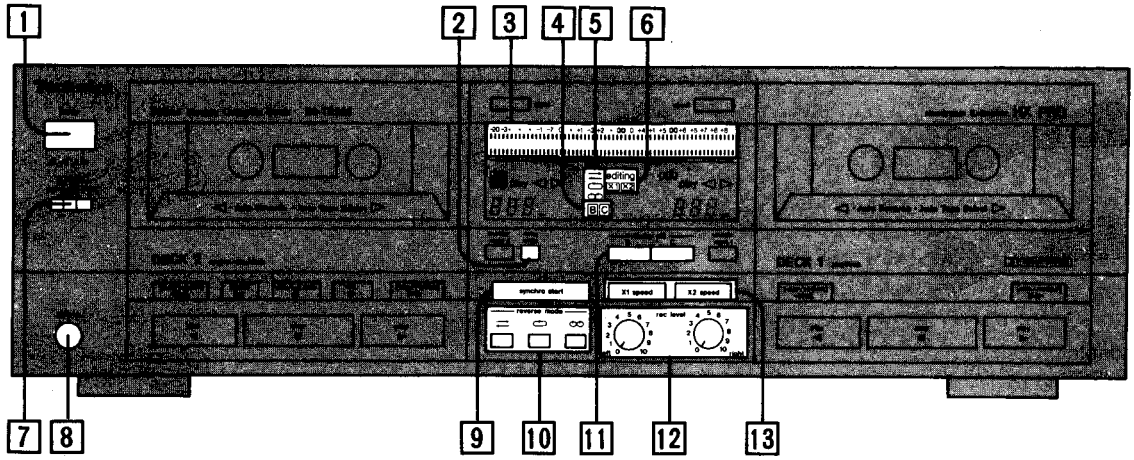
"AC OUTLET" (UNSWITCHED)

Power is always available, regardless of the unit's power switch setting.
Audio equipment rated up to 100 W can be connected.

Placements hints

If this unit is placed near a receiver or a tuner, a "hum" noise may be heard during tape playback, recording, or AM reception of the receiver or the tuner.
If this occurs, leave as much space as possible between the units, or place them where there is the least amount of "hum".

■ LOCATION OF CONTROLS



Controls common to both decks

1 Power switch (power)

2 Meter-range selector (meter range)
This selector is used to select the input level range shown on the display.

3 Input level meter (peak level)
During playback, this meter indicates the level of the recorded sound.
During recording, it indicates the level being recorded, adjusted by the recording-level controls.

4 Dolby noise-reduction indicators (B, C)
Each indicator illuminates to show the type of Dolby noise-reduction system selected by pressing one of the Dolby noise-reduction buttons.

5 Reverse-mode indicators (⇄, ↻, ∞)
Each indicator illuminates to show which of the reverse modes was selected by the reverse-mode selectors.

6 Edit-recording tape-speed indicators (editing, ×1, ×2)
The word "editing" and either the "×1" or "×2" indicator illuminate to show which of the tape-to-tape recording speeds was selected when pressing one of the edit-recording tape-speed buttons.

7 Timer switch (timer)
This switch is used to automatically begin a tape recording or tape playback at a certain time, selected by an optional timer.

8 Headphones jack (phones)

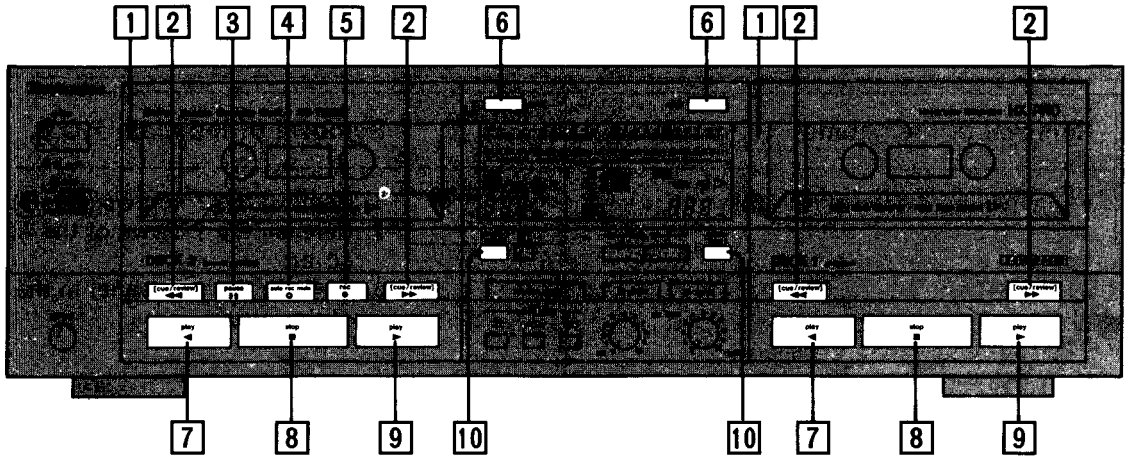
9 Synchro-start button (synchro start)
This button is used to start a tape-to-tape recording, simultaneously starting deck 1 (the playback deck) and deck 2 (the recording deck).

10 Reverse-mode selectors (reverse mode)
These selectors are used for selection of the reverse mode (for either playback or recording).

11 Dolby noise-reduction buttons (Dolby NR)
These buttons are used to reduce the hissing noise heard from the tape. This unit is provided with both the B-type and C-type noise-reduction systems.

12 Recording-level controls (rec level)
These controls are used to regulate the recording level of deck 2.

13 Edit-recording tape-speed buttons (speed)
These buttons are used to select the recording speed during edit-recording.



Controls applicable to deck 1 and/or 2

1 Cassette holder

2 Fast-forward/cue, rewind/review buttons (cue/review/▶▶/◀◀)
These buttons are used to advance or rewind the tape. During playback these buttons are used to cue or review while listening to the contents at high speed.

3 Pause button (pause/II)
This button is used to temporarily stop the tape playback or recording of deck 2 only.

4 Automatic-record-muting button (auto rec mute/●)
This button is used to make a silent interval on the tape while recording is in progress on deck 2.

5 Record button (rec/●)
This button is used to set deck 2 to the recording stand-by mode.

6 Eject button (eject)
This button is used to open the cassette holder.

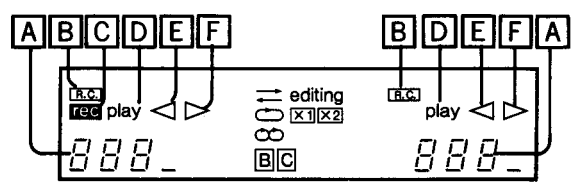
7 Reverse-side playback button (play/◀)
This button is used to start the playback or recording (of deck 2 only) of side "B" of the cassette.
(The tape will move in the right-to-left direction.)

8 Stop button (stop/■)
This button is used to stop the tape movement.

9 Forward-side playback button (play/▶)
This button is used to start the playback or recording (of deck 2 only) of side "A" of the cassette.
(The tape will move in the left-to-right direction.)

10 Tape counter reset button (counter reset 1/2)
This button is used to reset the tape counter indication to "000".

Indicators applicable only to deck 1 or 2



A Tape counter
Indicates the amount of tape movement separately for deck 1 and deck 2. The least significant digit indicates tape movement.

B Remote-control indicator (R.C.)
Illuminates to indicate that this unit can now be controlled by the remote-control transmitter.

C Recording indicator (rec)
Illuminates to indicate that deck 2 is in the recording stand-by mode or is recording.

D Playback indicator (play)
When this indicator illuminates steadily, it indicates that this unit is in the playback or recording mode (of deck 2 only). When flashing continually, indicates that deck 2 is in the pause mode or in the recording stand-by mode.

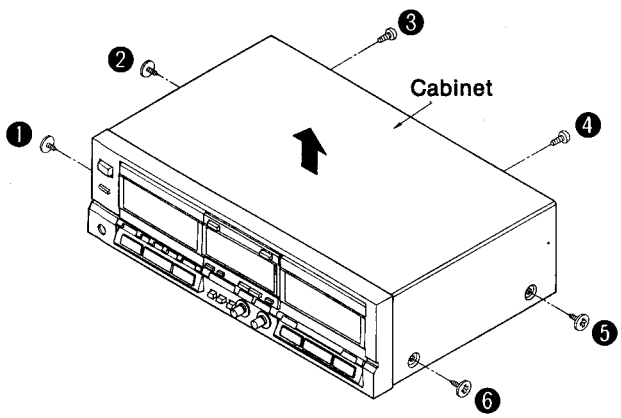
E Reverse-side indicator (◁)
Illuminates during playback or recording (of deck 2 only), to indicate that side "B" of the tape is being used.

F Forward-side indicator (▷)
Illuminates during playback or recording (of deck 2 only), to indicate that side "A" of the tape is being used.

■ DISASSEMBLY INSTRUCTIONS

"ATTENTION SERVICER"
Some chassis components may have sharp edges. Be careful when disassembling and servicing.

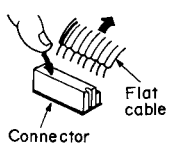
Ref. No. 1	Removal of the cabinet
Procedure 1	• Remove the 6 screws (❶~❻).



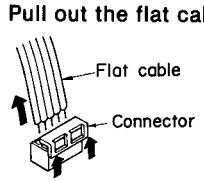
4. Remove the 6 screws (❽~⓭).
5. Remove the 2 connectors (CP1, CP2).
6. Remove the 8 flat cables (CN3, CN4, CN5, CN6, CN7, CN8, CN9, CN10).
7. Remove the main P.C.B. in the direction of the arrow.

How to remove the flat cable

• Pull out the flat cable while pressing the connector.



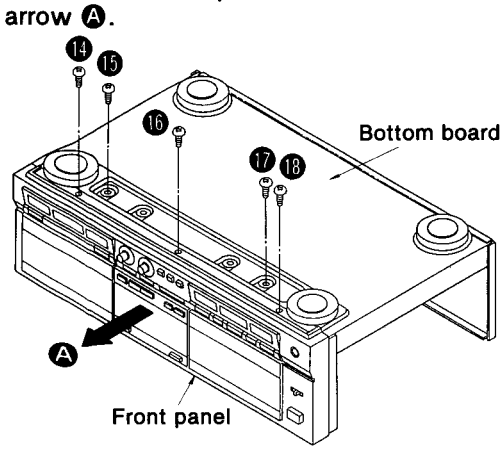
1. Lift the connector.
2. Pull out the flat cable.



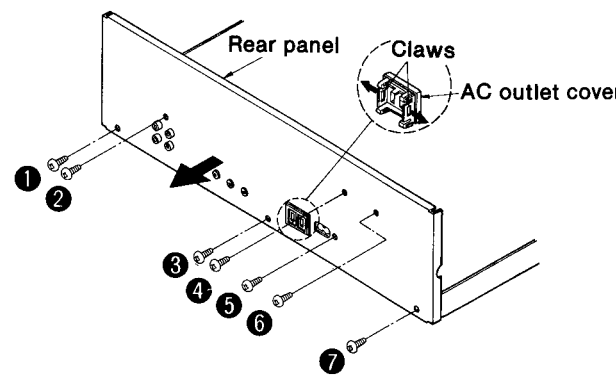
How to check the main P.C.B.

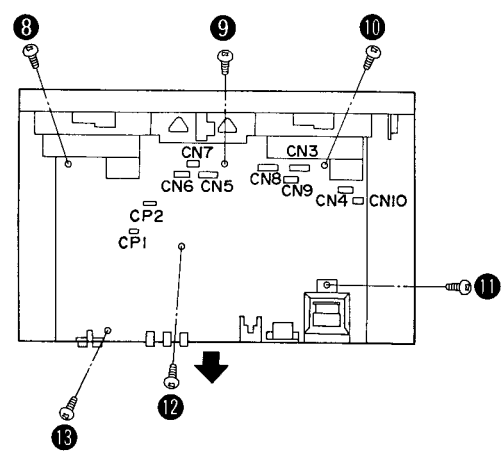
• When checking the soldered surfaces of main P.C.B. and replacing the parts, do as show.

1. Remove the 14 screws (❶, ❸, ❼~⓲).
2. Remove the front panel in the direction of the arrow Ⓐ.

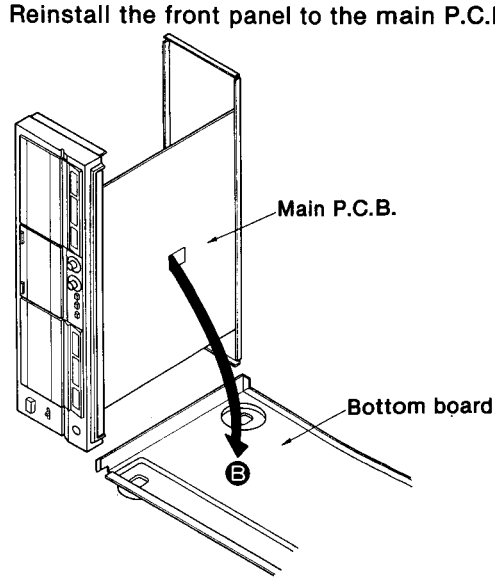


Ref. No. 2	Removal of the main P.C.B.
Procedure 1→2	1. Remove the 7 screws (❶~❼). 2. Release the 2 claws of the AC outlet cover. 3. Remove the rear panel in the direction of the arrow.





3. Remove the bottom board in the direction of the arrow Ⓑ.
4. Reinstall the front panel to the main P.C.B.



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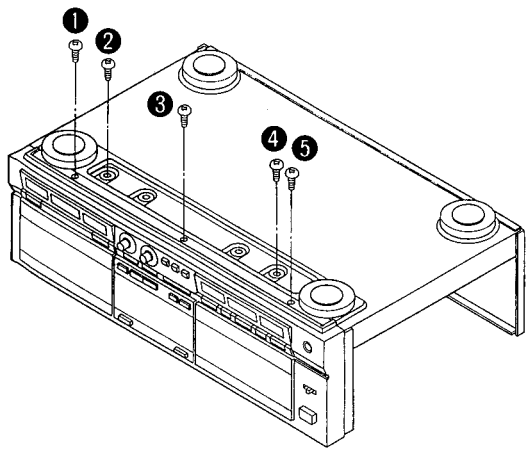
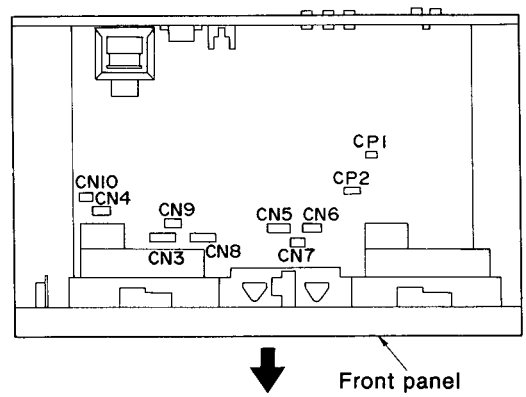
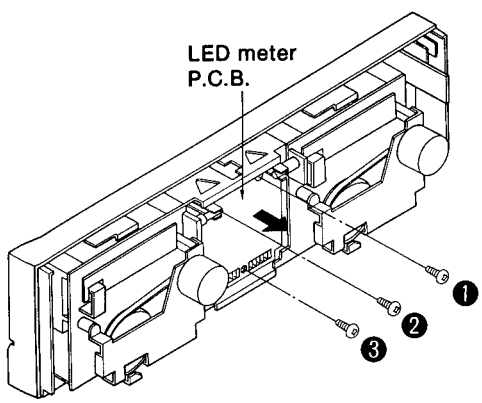
Ref. No. 3	**Removal of the front panel**
Procedure 1→3	1. Remove the 5 screws (❶~❺).



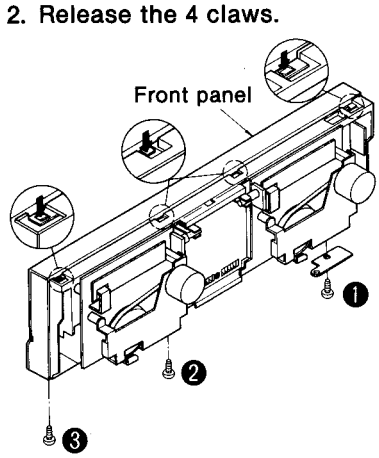
2. Remove the 2 connectors (CP1, CP2).
3. Remove the 8 flat cables (CN3, CN4, CN5, CN6, CN7, CN8, CN9, CN10).
4. Remove the front panel in the direction of the arrow.



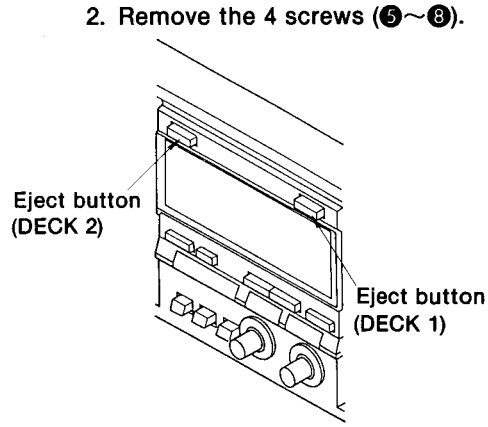
Ref. No. 4	**Removal of the LED meter P.C.B.**
Procedure 1→3→4	1. Remove the 3 screws (❶~❸). 2. Remove the meter P.C.B. in the direction of the arrow.

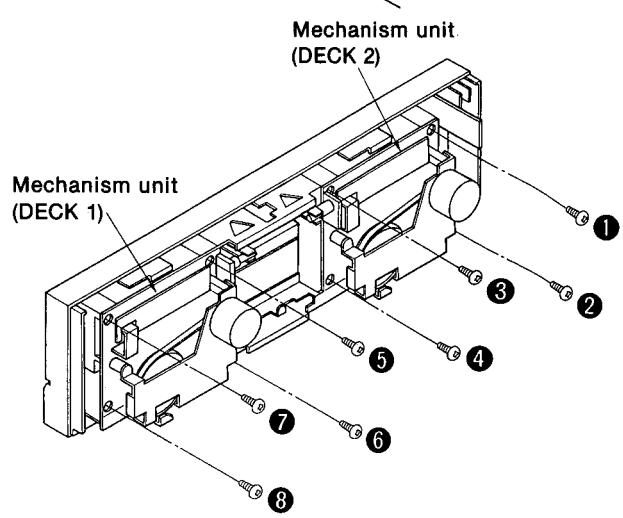


Ref. No. 6	**Removal of the front panel**
Procedure 1→3→6	1. Remove the 3 screws (❶~❸). 2. Release the 4 claws.



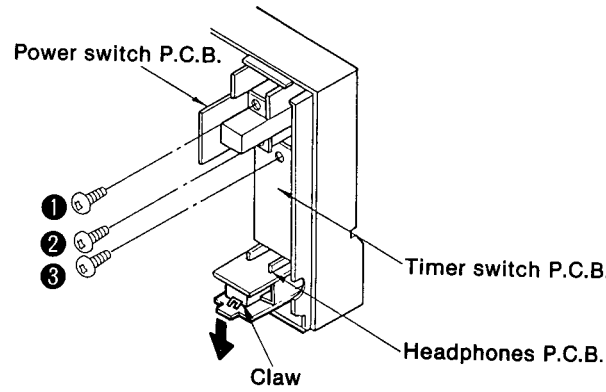
Ref. No. 5	**Removal of the mechanism units**
Procedure 1→3→5	•Mechanism unit (DECK 2) 1. Push the eject button. 2. Remove the 4 screws (❶~❹). •Mechanism unit (DECK 1) 1. Push the eject button. 2. Remove the 4 screws (❺~❽).



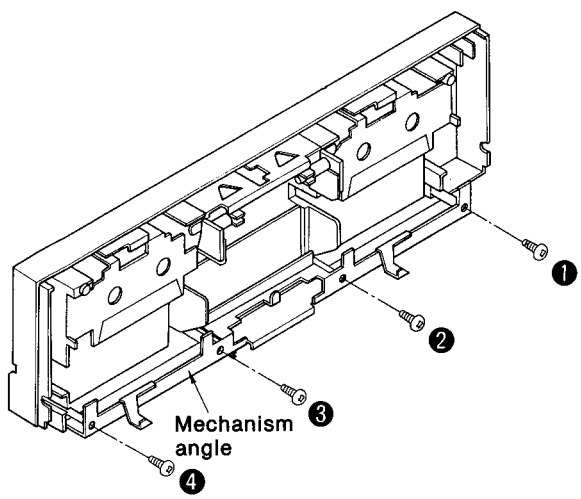


D

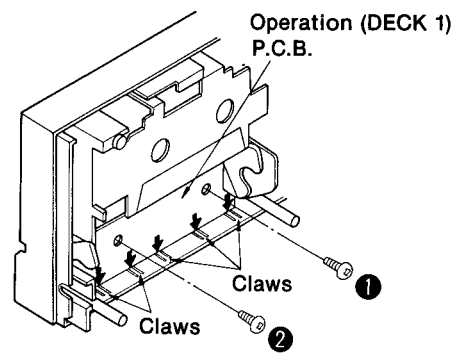
Ref. No. 7	**Removal of the power switch P.C.B., timer switch P.C.B. and headphones P.C.B.**
Procedure 1→3→7	• Removal of the power switch P.C.B. 1. Remove the 2 screws (❶, ❷). • Removal of the timer switch P.C.B. 1. Remove the 1 screw (❸). • Removal of the headphones P.C.B. 1. Release the 1 claw.



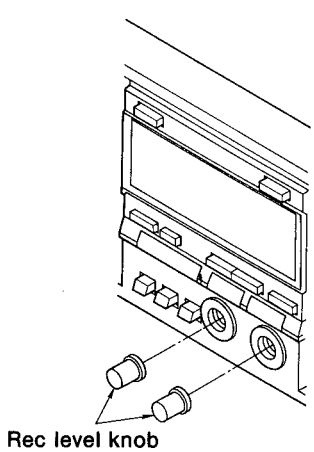
Ref. No. 8	**Removal of the mechanism angle**
Procedure 5→8	• Remove the 4 screws (❶~❹).

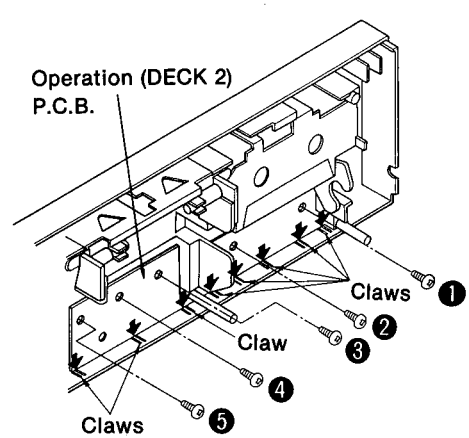


Ref. No. 9	**Removal of the operation (DECK 1) P.C.B.**
Procedure 5→8→9	1. Remove the 2 screws (❶, ❷). 2. Release the 5 claws.



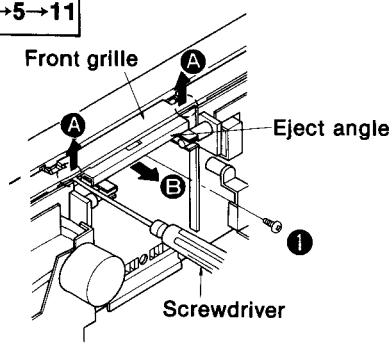
Ref. No. 10	**Removal of the operation (DECK 2) P.C.B.**
Procedure 5→8→10	1. Remove the rec level 2 knobs. 2. Remove the 5 screws (❶~❺). 3. Release the 8 claws.



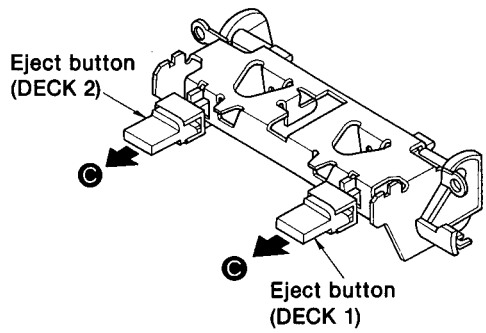


Ref. No. 11	**Removal of the eject angle, eject buttons, and eject lever**

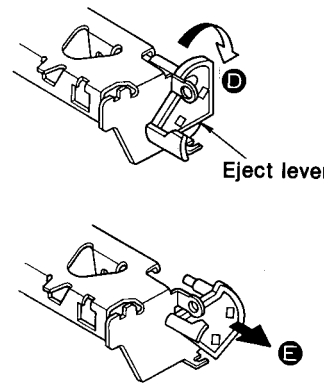
Procedure 3→4→5→11



1. Remove the 1 screw (❶).
2. Lift the front grille slightly using a screw driver etc. in the direction of the arrow Ⓐ, and take out the eject angle in the direction of the arrow Ⓑ.



3. Pull out the eject buttons in the direction of the arrow Ⓒ.

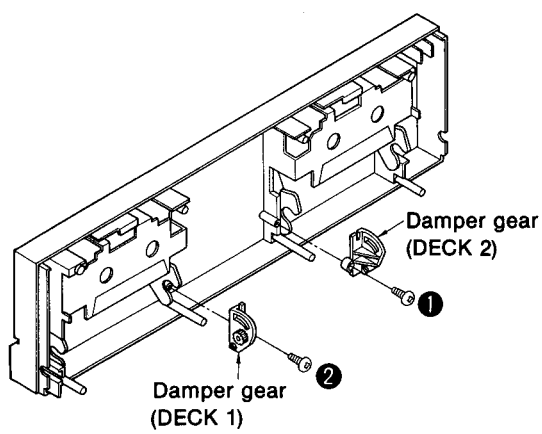


4. Turn the eject lever in the direction of the arrow Ⓓ, and remove the eject lever in the direction of the arrow Ⓔ.

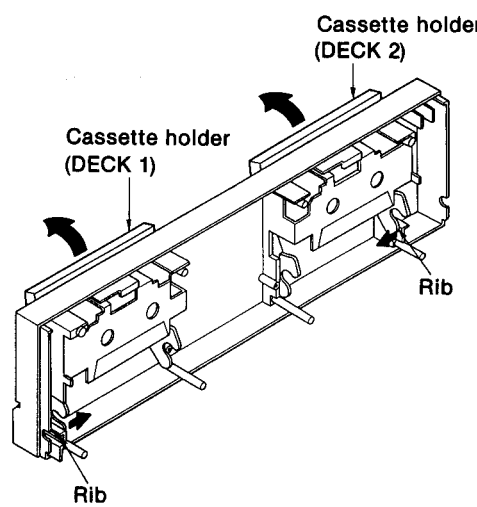
Ref. No. 12	**Removal of the cassette holder (DECK 1 & DECK 2)**

Procedure 5→8→12

1. Remove the 2 screws (❶, ❷).
2. Remove the damper gear.



3. Remove the rib in the direction of the arrow.
4. Remove the cassette holder in the direction of the arrow.

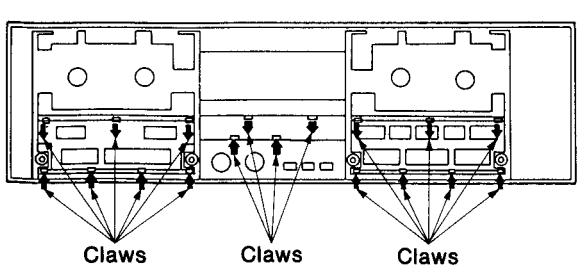


Ref. No. 13	**Removal of the operation button ornament and edit button ornament**

Procedure 9→10→ 12→13

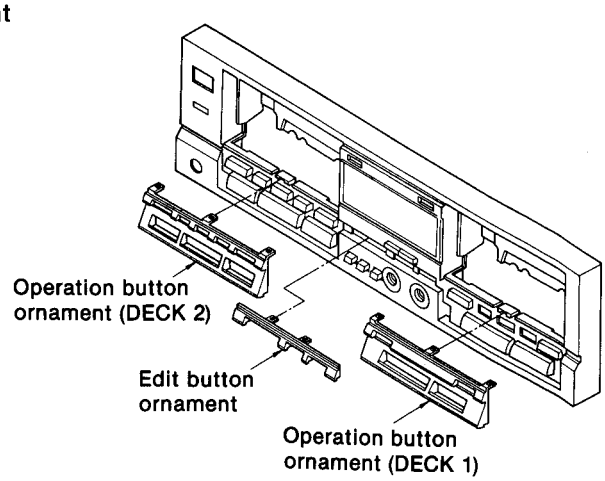
A. Removal of the operation button ornament (DECK 1, DECK 2).

1. Release the 14 claws.



B. Removal of the edit button ornament.

1. Release the 4 claws.



D

■ MEASUREMENT AND ADJUSTMENT METHODES

Measurement Condition

- Rec. level control; Maximum
- Timer switch; Off
- Reverse-mode selector switch; ⇄
- Edit-recording tape-speed selector; X1
- Dolby NR switch; Off
- Make sure heads are clean
- Make sure capstan and pressure roller are clean
- Judgeable room temperature 20±5°C (68±9°F)

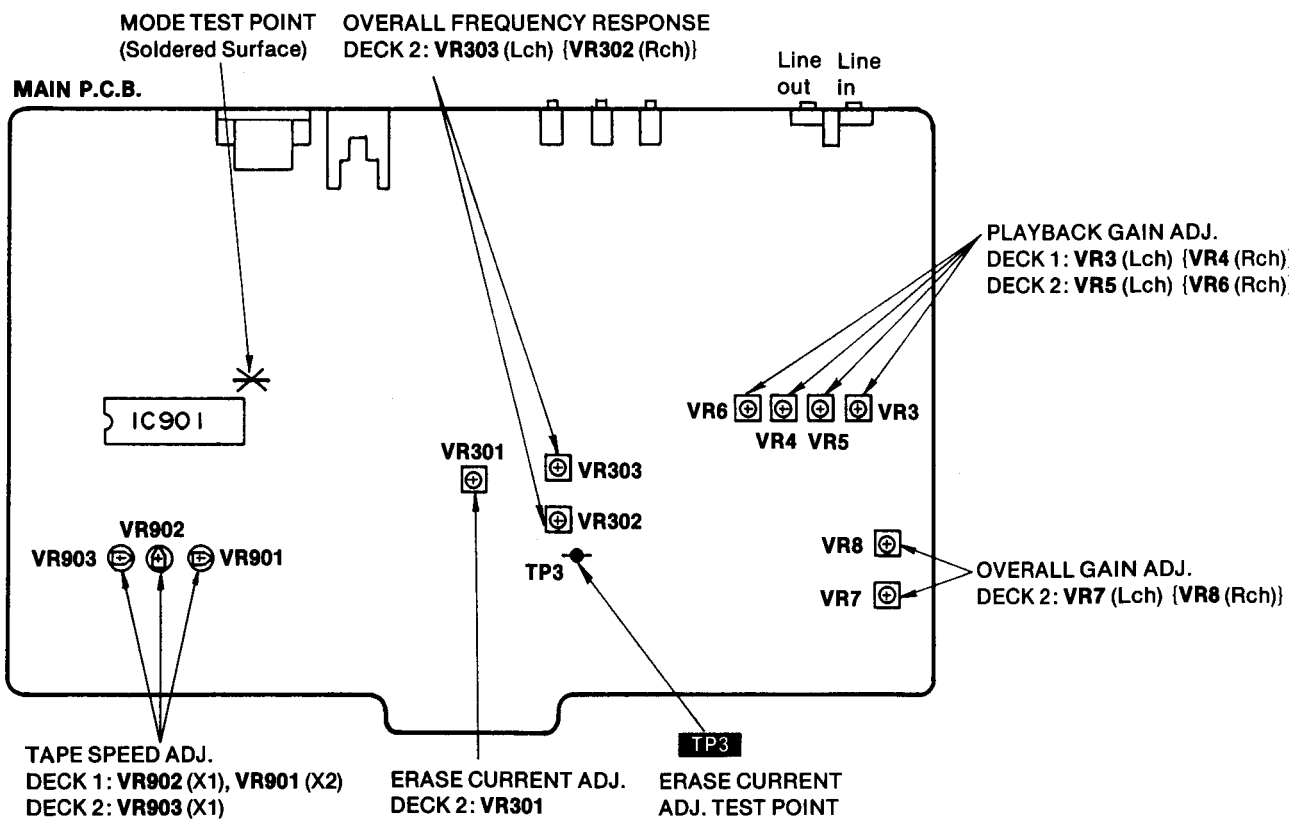
Measuring Instrument

- EVM (Electronic Voltmeter)
- Oscilloscope
- Digital frequency counter
- AF oscillator
- ATT (Attenuator)
- DC voltmeter
- Resistor (600Ω)

Test tape

- Head azimuth adjustment (8kHz, −20dB); QZZCFM
- Tape speed adjustment (3kHz, −10dB); QZZCWAT
- Playback frequency response (315Hz, 12.5kHz, 10kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz, 63Hz, −20dB); QZZCFM
- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Overall frequency response, Overall gain adjustment
  Normal reference blank tape ; QZZCRA
  CrO_2 reference blank tape; QZZCRX
  Metal reference blank tape; QZZCRZ

• Adjustment Points



D

HEAD AZIMUTH ADJUSTMENT (DECK 2/1)

1. Playback the azimuth adjustment portion (8kHz, −20dB) of the test tape (QZZCFM). Vary the azimuth adjusting screw until the outputs of the L-CH and R-CH are maximized and the lissajous waveform, as illustrated, approaches 0 degrees.

Note: If L-CH and R-CH are not maximized at the same point, adjust to the point where the levels of each channel are maximized and equal.

2. Perform the same adjustment in the play mode.
3. After the adjustment, apply screwlock to the azimuth adjusting screw.

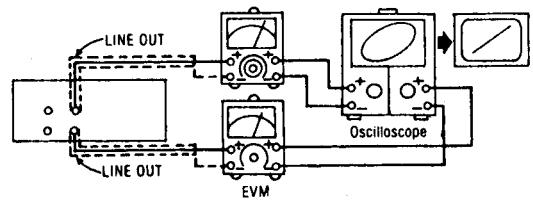


Fig. 1

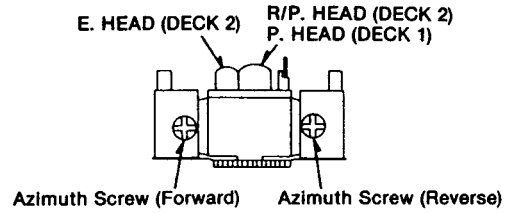


Fig. 2

TAPE SPEED ADJUSTMENT (DECK 2/1)

Normal speed

1. Shift the edit-recording tape-speed selector to "**X1**" .
2. Playback the middle portion of the test tape (QZZCWAT).
3. Adjust Deck 1=**VR902** and Deck 2=**VR903** so that the output is within the standard value.

High speed

4. Shift the edit-recording tape speed switch to "**X2**".
5. Playback the middle portion of the test tape (QZZCWAT).
6. Adjust Deck 1=**VR901** so that the output is within the standard value.

Note: The Normal speed adjustment must be done before the high speed adjustment.

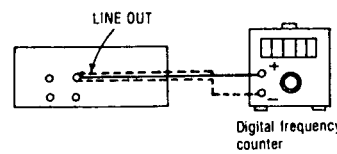


Fig. 3

(DECK 1) Standard value: 3000±15Hz [Normal (X1)], 6000±30Hz [High (X2)]
(DECK 2) Standard value: 3000±15Hz [Normal (X1)], 6000±600Hz [High (X2), only confirmation]

PLAYBACK GAIN ADJUSTMENT (DECK 2/1)

1. Playback the gain adjusted portion (315Hz, 0dB) of the test tape (QZZCFM).
2. Adjust Deck 1=**VR3** (L-CH) [[**VR4** (R-CH)]] and Deck 2=**VR5** (L-CH) [[**VR6** (R-CH)]] so that the output is within the standard value.

Standard value: 0.4V±0.5dB

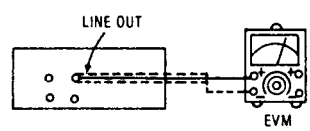


Fig. 4

PLAYBACK FREQUENCY RESPONSE (DECK 2/1)

1. Playback the frequency response portion (315Hz, 12.5kHz~63Hz, −20dB) of the test tape (QZZCFM).
2. Assure that the frequency response is within the range shown in **Fig. 6** for both L-CH and R-CH.

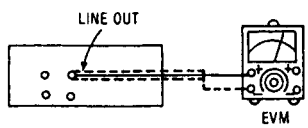


Fig. 5

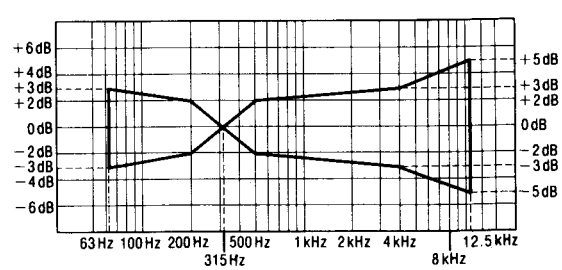


Fig. 6

D

ERASE CURRENT ADJUSTMENT (DECK 2)

1. Insert the metal blank test tape (QZZCRZ) and set the unit to the record pause mode.
2. Adjust **VR301** so that the output between **TP3** and GND is within the standard value.

Standard value: 190±5mA (Metal)...EVM Reading: 190±5mV

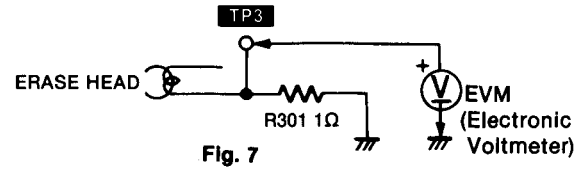


Fig. 7

OVERALL FREQUENCY RESPONSE (DECK 2)

1. Insert the normal blank test tape (QZZCRA) and set the unit to the record pause mode.
2. Apply a reference input signal (1kHz, −24dB) through an attenuator.
3. Attenuate the signal by 20dB and adjust the frequency from 50Hz~10kHz.
4. Record the frequency sweep.
5. Playback the recorded signal and assure that it is within the range shown in **Fig. 8** in comparison to the reference frequency (1kHz).
6. If it is not within the standard range, adjust **VR303** (L-CH) and **VR302** (R-CH) so that the frequency level is within the standard range.
   - Level up in high frequency range .....Increase the bias current.
   - Level down in high frequency range ...Decrease the bias current.
7. Repeat steps 2~6 above using the CrO_2 tape (QZZCRX) and the metal tape (QZZCRZ) increasing the frequency range to 12.5kHz (50Hz~12.5kHz).
8. Assure that the level is within the range shown in **Fig. 9**.

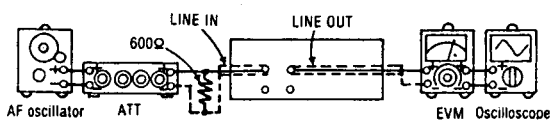


Fig. 10

Normal Overall frequency response chart (NR OUT)

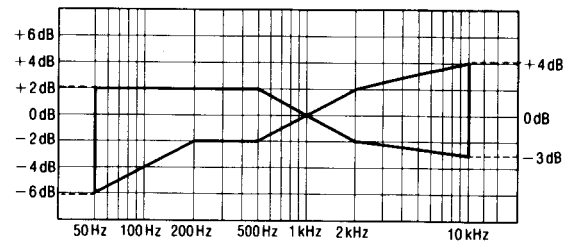


Fig. 8

CrO_2 Metal Overall frequency response chart (NR OUT)

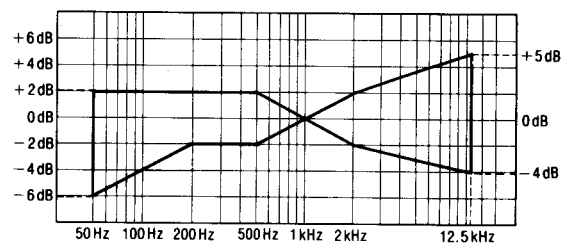


Fig. 9

OVERALL GAIN ADJUSTMENT (DECK 2)

1. Insert the normal blank test tape (QZZCRA) and set the unit to the record pause mode.
2. Apply a reference input signal (1kHz, −24dB). Attenuate the output so that its level becomes 0.4V.
3. Record this input signal.
4. Playback the signal recorded in step 3 above, and assure that the output is within the standard value.
5. If it is not within the standard value, adjust **VR7** (L-CH) and **VR8** (R-CH).
6. Repeat the step 2~5 above until the output is within the standard value.

Standard value: 0.4V±0.5dB

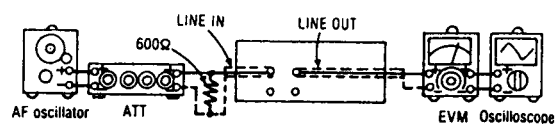


Fig. 11

■TERMINAL FUNCTION OF IC's

• IC901 (M50746-145SP): MICROCOMPUTER (This microcomputer is used for mechanical operation)

Pin No.	Mark	I/O Division	Function
1	Vcc	I	Power supply terminal
2	AV_{SS}	—	• Connected to V_{SS}
3	V_{REF}	I	Standard voltage terminal (5V)
4	CRM	O	CUE/REV mute signal • "L" level in muting is off mode. • "H" level in muting is on mode.
5	$\overline{\text{DIR 2}}$	O	Not used, open
6	MMT	O	Not used, open
7	LMT	O	Line out mute signal (Not used, open)
8	RMT 2	O	Rec. amp. mute signal of deck 2 • "L" level in mute is off mode. • "H" level in mute is on mode.
9	DMT	O	Line out mute signal • "L" level in muting is off mode. • "OPEN" when muting is on mode.
10	REV 2	—	Connected to GND
11	REV 1	—	Connected to GND
12	KEY 2	I	Key switch scan (DECK 2: STOP, F.F., REW, F. PLAY, R. PLAY, REC., PAUSE, S. START, X2, X1, DOLBY C, B)
13	KEY 1	I	Key switch scan (DECK 1: STOP, F.F., REW, F. PLAY, R. PLAY, ⇄, ⊂⊃, ∞)
14	$\overline{\text{PLAY 2}}$	O	Not used, open
15	$\overline{\text{PLAY 1}}$	O	Not used, open
16	$\overline{\text{ARM 2}}$	I	Auto rec. mute terminal. "L"=KEY ON, "H"=KEY OFF
17	$\overline{\text{REC 1}}$	I	Not used.
18	$\overline{\text{REC 2}}$	O	Not used.
19	$\overline{\text{REM 2}}$	O	Not used, open
20	$\overline{\text{REM 1}}$	O	Not used, open
21	RENA	O	B side select signal to CD player, used during CD synchro editing mode.
22	SYNC	I	Synchro start signal input from CD player
23	RCS	I	Remote control serial data
24	TREC	I	Timer rec terminal
25	TPLAY	I	Timer play terminal
26	POF	I	Primary AC power detection terminal
27	CNV_{SS}	—	Connected to GND
28	$\overline{\text{RESET}}$	I	Reset terminal • "L" level when reset is on mode. • "L" → "H" level when reset is off mode.
29	XIN	I	Clock OSC terminal
30	XOUT	O	
31	φ	I	Not used, open.
32	V_{SS}	—	Connected to GND
33	$\overline{\text{TEST}}$	—	Test terminal
34	PWIN	I	Power ON/OFF switch input • "L" level with power ON • "H" level with power OFF
35	REEL 1	I	Deck 1 rotation pulse signal of reel table

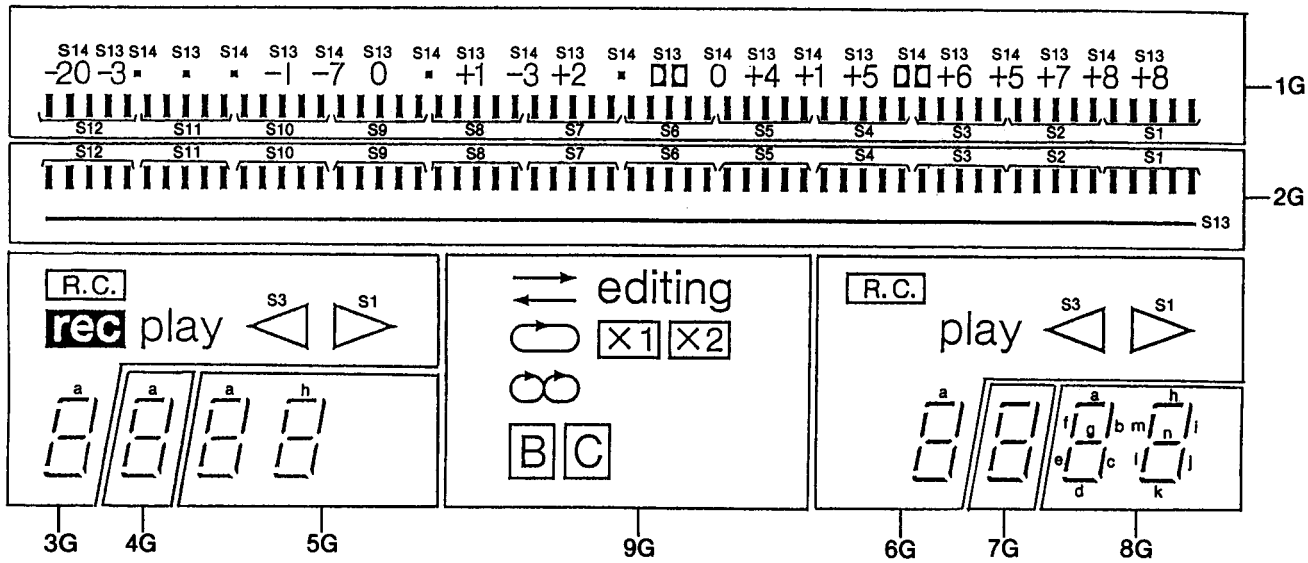
Pin No.	Mark	I/O Division	Function
36	REEL 2	I	Deck 2 rotation pulse signal of reel table
37	RINH 2	I	Deck 2 reverse rec. Inh. switch select terminal
38	FINH 2	I	Deck 2 forward rec. Inh. switch select terminal
39	MODE 1	I	Deck 1 mechanism mode switch select termnal
40	HALF 1	I	Deck 1 cassette half detection switch • "L" level in half detection switch is on mode. • "H" level in half detection switch is off mode.
41	MPX	O	MPX filter IN/OUT control signal • "OPEN" with Dolby NR "IN" • "L" level with Dolby NR "OUT"
42	$\overline{T2}$	O	Deck 2 play select signal • "L" level with PLAY/CUE/REVIEW mode. • "H" level with any other mode.
43	$\overline{X2}$	O	X2 speed FL meter display • "L" level when FL meter is on mode. • "OPEN" when other mode.
44	$\overline{X1}$	O	Not used, open
45	T/S	—	Connected to GND
46	$\overline{C}$	O	Dolby C FL meter display • "L" level when FL meter is on mode. • "OPEN" when other mode.
47	$\overline{B}$	O	Dolby B FL meter display • "L" level when FL meter is on mode. • "OPEN" when other mode.
48	$\overline{ENC}$	O	Encode/decode select signal • "L" level in encode mode. • "H" level in decode mode.
49	C/M	O	Deck 1 reverse mechanism select terminal
50	$\overline{PWOUT}$	O	Power ON/OFF output terminal
51	$\overline{SDATA}$	O	Serial data output
52	P04 (∞)	O	Not used, open
53	P03 (⊂)	O	Not used, open
54	P02 (⇀)	O	Not used, open
55	DIR 1	O	Not used, open
56	FINH 1	—	Connected to GND
57	HSP 1	O	Deck 1 motor speed control signal • "L" level when normal speed (X1). • "H" level when high speed (X2).
58	SOL 1	O	Deck 1 solenoid control signal • "H" level when solenoid is on mode. • "L" level when solenoid is off mode.
59	MOTOR 1	O	Deck 1 motor control signal • "H" level when motor is on mode. • "L" level when motor is off mode.
60	MODE 2	I	Deck 2 mechanism mode switch select terminal
61	HALF 2	I	Deck 2 cassette half detection switch • "L" level in half detection switch in on mode. • "H" level in half detection switch in off mode.
62	HSP 2	O	Deck 2 motor speed control signal • "H" level when normal speed (X1). • "L" level when high speed (X2).
63	SOL 2	O	Deck 2 solenoid control signal • "H" level when solenoid is on mode. • "L" level when solenoid is off mode.
64	MOTOR 2	O	Deck 2 motor control signal • "H" level when motor is on mode. • "L" level when motor is off mode.

• IC551 (HD404302SA02): MICROCOMPUTER (This microcomputer is used for FL meter operation.)

Pin No.	Mark	I/O Division	Function
1	SIN	I	Serial data input
2 3 5 6 7 8 9 10 11 12 13 14 15 16	S14 S13 S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12	O	FL anode signal
4	Vdisp	I	Display power supply (Vdisp=VCC-35V)
17	NTA	I	DECK 2 reel table pulse
18	NTB	I	DECK 1 reel table pulse
19	CRST 2	I	DECK 2 counter reset terminal
20	CRST 1	I	DECK 1 counter reset terminal
21 23	GND	—	GND terminal
22	AVCC	I	Power supply for A-D converter (+4.5V)
24	VRIN	—	Connected to GND
25	Sig L	I	Lch Level meter terminal (A-D input)
26	Sig R	I	Rch Level meter terminal (A-D input)
27	AVSS	—	Connected to GND
28	RESET	I	Reset terminal
29	$\overline{\text{TEST}}$	I	Test terminal
30	OSC1	O	Clock OSC terminal
31	OSC2	I	
32	VCC	I	Power supply terminal
33 34 35 36 37 38 39 40 41	G1 G2 G3 G4 G5 G6 G7 G8 G9	O	FL grid signal
42	PWM	O	PWM output (Not used, open.)

■ INTERNAL CONNECTION OF FL

• Grid connection diagram



• Anode connection table

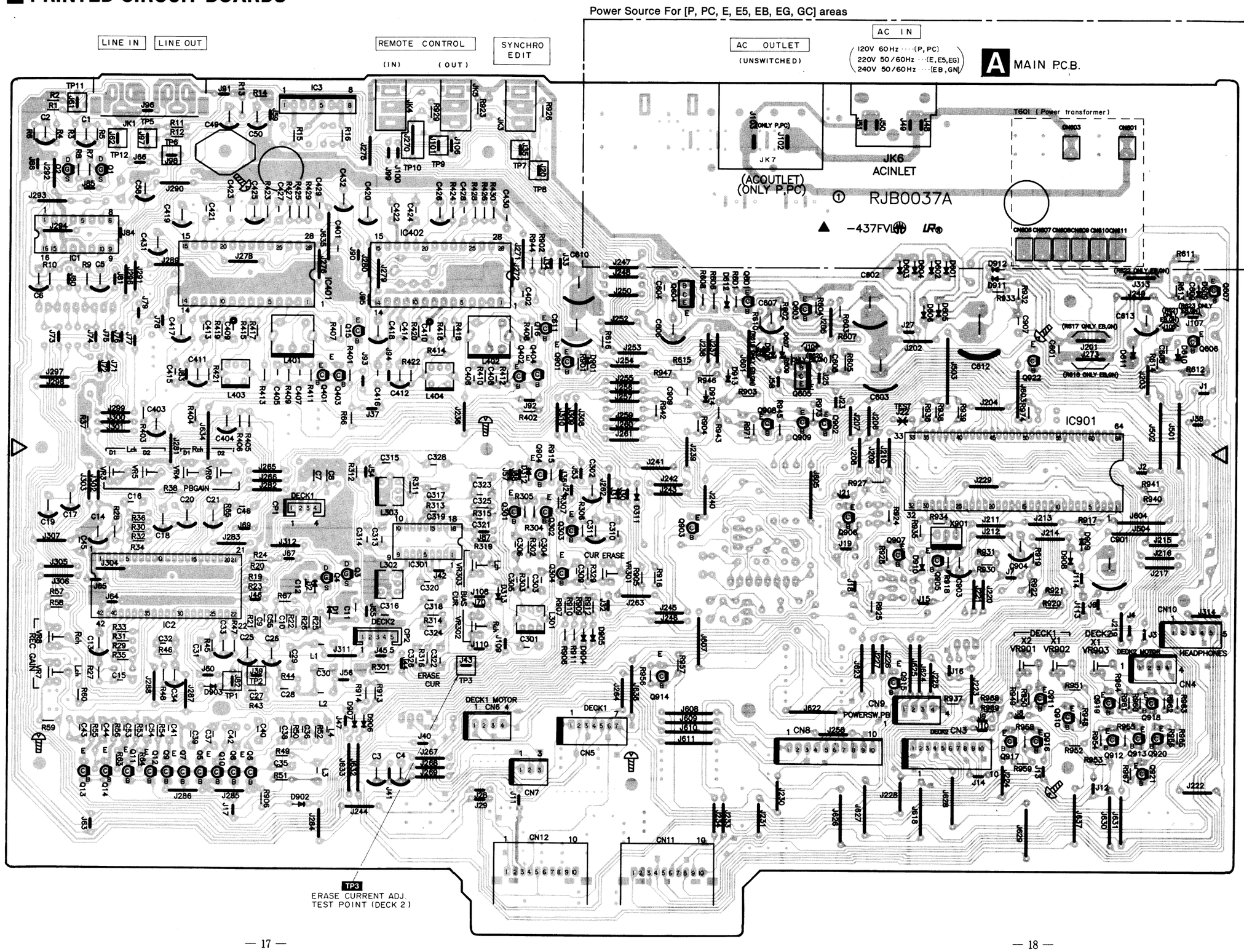
	9G	8G	7G	6G	5G	4G	3G	2G	1G
S1	⇄	n	-	▷	n	-	▷	▮▮▮▮▮	▮▮▮▮▮
S2	↻	j	-	play	j	-	play	▮▮▮▮▮	▮▮▮▮▮
S3	⇄	ℓ	-	◁	ℓ	-	◁	▮▮▮▮▮	▮▮▮▮▮
S4	editing	k	-	R.C.	k	-	R.C.	▮▮▮▮▮	▮▮▮▮▮
S5	-	h	-	-	h	-	rec	▮▮▮▮▮	▮▮▮▮▮
S6	×2	a	a	a	a	a	a	▮▮▮▮▮	▮▮▮▮▮
S7	×1	b	b	b	b	b	b	▮▮▮▮▮	▮▮▮▮▮
S8	-	f	f	f	f	f	f	▮▮▮▮▮	▮▮▮▮▮
S9	B	g	g	g	g	g	g	▮▮▮▮▮	▮▮▮▮▮
S10	C	c	c	c	c	c	c	▮▮▮▮▮	▮▮▮▮▮
S11	-	e	e	e	e	e	e	▮▮▮▮▮	▮▮▮▮▮
S12	-	d	d	d	d	d	d	▮▮▮▮▮	▮▮▮▮▮
S13	-	i	-	-	i	-	-	▬▬▬	S13
S14	-	m	-	-	m	-	-	-	S14

• Pin connection

PIN NO.	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	F 2	F 2	N P	N P	N P	S 12	S 11	S 10	S 9	S 8	S 7	S 6	S 5	S 4	S 3	S 2	S 1	N P	S 14	S 13	N P	9 G	8 G	7 G	6 G	5 G	4 G	3 G	2 G	1 G	N P	N P	N P	F 1	F 1

D

■ PRINTED CIRCUIT BOARDS



eas

AC IN

120V 60Hz ····(P, PC)
220V 50/60Hz ···(E, E5, EG)
240V 50/60Hz ···(EB, GN)

A MAIN P.C.B.

T601 (Power transformer)

JK6 ACINLET

① RJB0037A

-437FVL LR

IC901

DECK1 X2 VR901 X1 VR902

DECK2 X1 VR903

HEADPHONES

POWERSW.PB

Power Source For (GC) area.

VOLTAGE ADJ.

AC IN (110/127/220/240V 50/60Hz)

A MAIN P.C.B.

S601

T601 (Power transformer)

JK6 ACINLET

① RJB0037B

▲ -437FVL LR

I OPERATION (DECK 2) P.C.B.

COUNTER RESET I

DOLBY NR (C) (B)

(X2 SPEED) (X1 SPEED)

(RIGHT) (LEFT)

REC LEVEL

F HEADPHONES P.C.B.

RJB0038AF

PHONES

G FL METER P.C.B.

RJB0038AA

431HB LR

FL551

IC551

B MECHANISM (DECK2) P.C.B.

SOLENOID

IC971

RJB Q070A-I

D TIMER SWITCH P.C.B.

RJB0039AD

431HB

TIMER

E POWER SWITCH P.C.B.

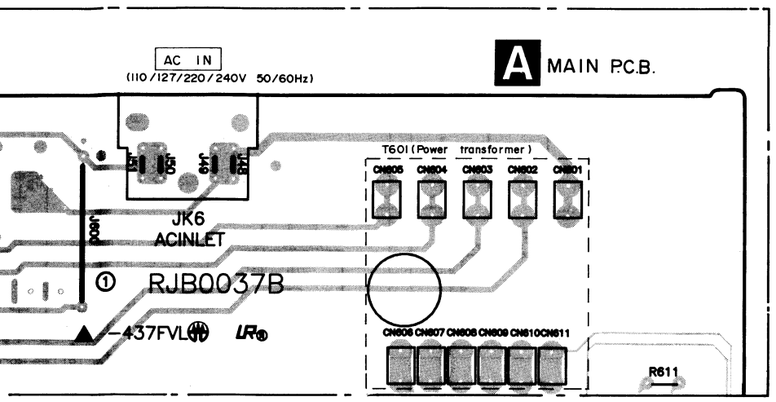
RJB0038AE

431HB LR

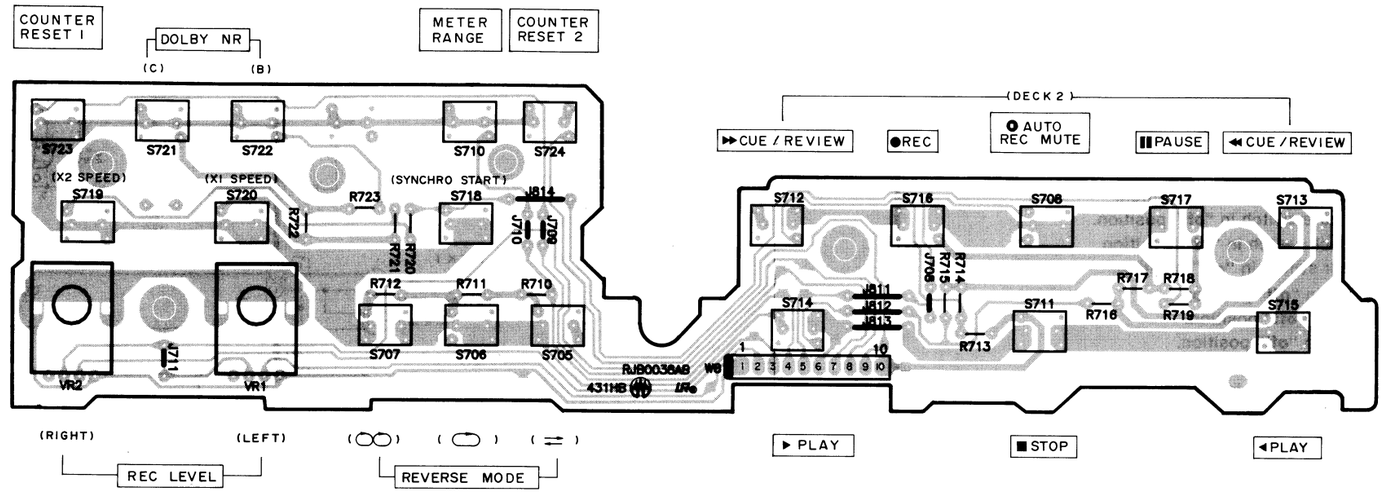
POWER

12 13 14 15 16 17 18 19 20 21

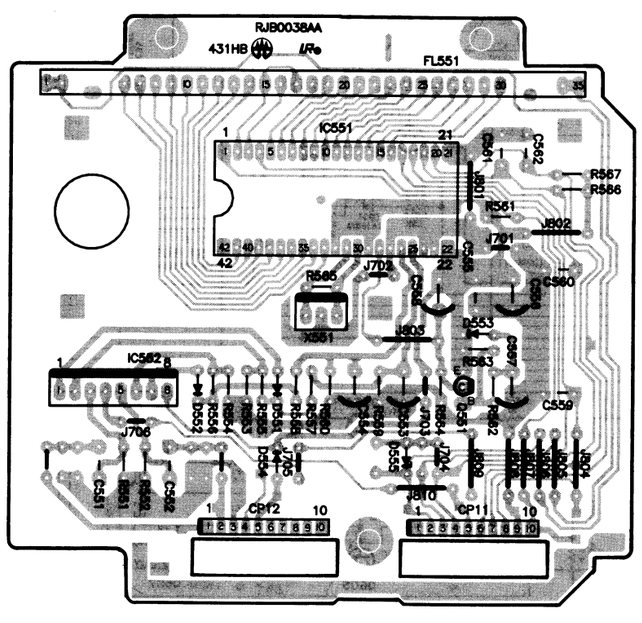
A MAIN P.C.B.



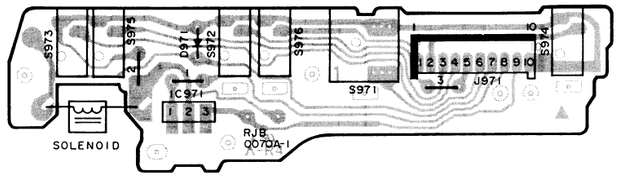
I OPERATION (DECK 2) P.C.B.



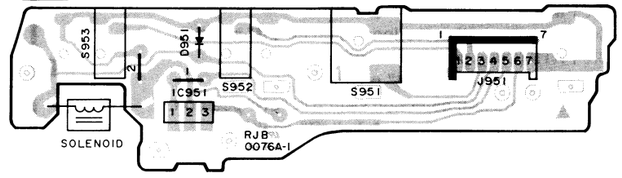
G FL METER P.C.B.



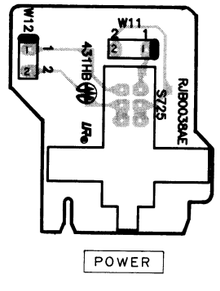
B MECHANISM (DECK2) P.C.B.



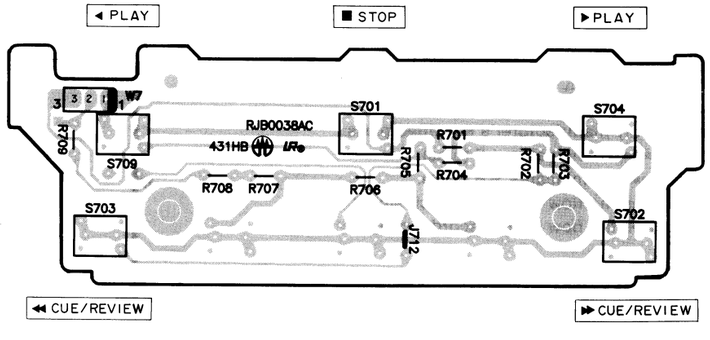
C MECHANISM (DECK I) P.C.B.



E POWER SWITCH P.C.B.



H OPERATION (DECK I) P.C.B.



RS-TR355 RS-TR355

■ SCHEMATIC DIAGRAM

(Parts list on pages 33～39.)

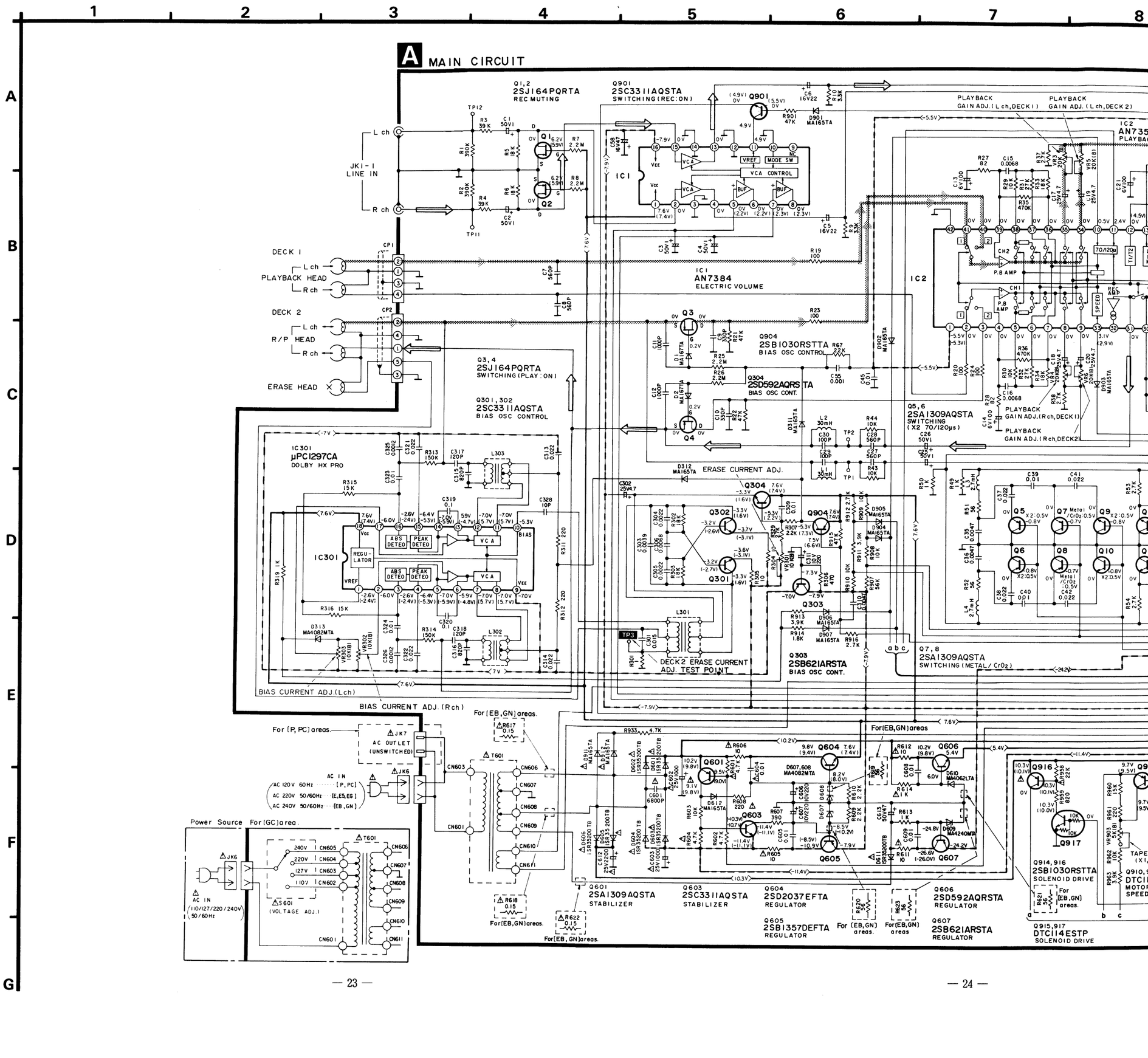
(This schematic diagram may be modified at any time with development of new technology.)

Notes:

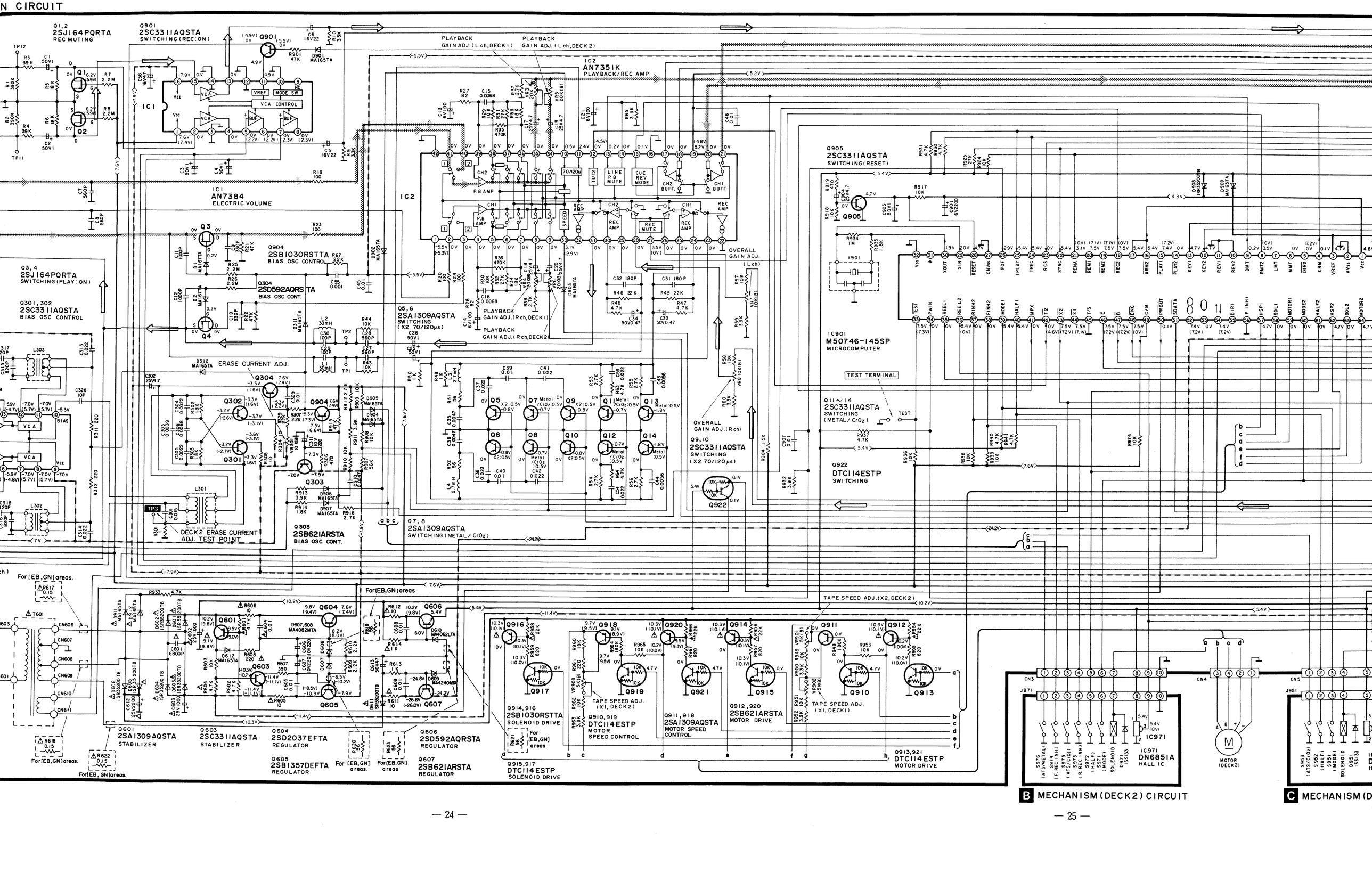
- S601: Voltage selector switch in "**240V**" position. (110V←127V←220V←240V) ((GC) area only)
- S701: DECK 1 Stop switch in "**off**" position.
- S702: DECK 1 F.F. switch in "**off**" position.
- S703: DECK 1 Rew. switch in "**off**" position.
- S704: DECK 1 For. Playback switch in "**off**" position.
- S705: Reverse mode switch (⇄) in "**off**" position.
- S706: Reverse mode switch (⟲) in "**off**" position.
- S707: Reverse mode switch (∞) in "**off**" position.
- S708: DECK 2 Auto rec. mute switch in "**off**" position.
- S709: DECK 1 Rev. Playback switch in "**off**" position.
- S710: Meter-range selector switch in "**off**" position.
- S711: DECK 2 Stop switch in "**off**" position.
- S712: DECK 2 F.F. switch in "**off**" position.
- S713: DECK 2 Rew. switch in "**off**" position.
- S714: DECK 2 For. Playback switch in "**off**" position.
- S715: DECK 2 Rev. Playback switch in "**off**" position.
- S716: DECK 2 Record switch in "**off**" position.
- S717: DECK 2 Pause switch in "**off**" position.
- S718: Synchro-start switch in "**off**" position.
- S719: Editing tape speed selector (X2) in "**off**" position.
- S720: Editing tape speed selector (X1) in "**off**" position.
- S721: Dolby NR C switch in "**off**" position.
- S722: Dolby NR B switch in "**off**" position.
- S723: Tape counter reset 1 switch "**off**" position.
- S724: Tape counter reset 2 switch "**off**" position.
- S725: Power switch in "**on**" position.
- S726: Timer switch in "**off**" position.
- S951: DECK 1 Mode switch in "**off**" position.
- S952: DECK 1 Cassette half detection switch in "**off**" position.
- S953: DECK 1 ATS (CrO_2) switch in "**off**" position.
- S971: DECK 2 Mode switch in "**off**" position.
- S972: DECK 2 Cassette half detection switch in "**off**" position.
- S973: DECK 2 Rev. Rec Inhibit switch in "**off**" position.
- S974: DECK 2 For. Rec Inhibit switch in "**off**" position.
- S975: DECK 2 ATS (CrO_2) switch in "**off**" position.
- S976: DECK 2 ATS (Metal) switch in "**off**" position.
- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise.
  1K=1,000 (Ω), 1M=1,000k (Ω)
- Capacity are in micro-farads (μF) unless specified otherwise.
- All voltage values shown in circuitry are under no signal condition and playback mode with volume control at minimum position otherwise specified.
  ( )..... Voltage values at record mode.
  For measurement us EVM.
- Important safety notice
  Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
- (▬▬ <+B> ▬▬) indicates +B (bias).
- (▬▬ <−B> ▬▬) indicates −B (bias).
- (▒▒▒) indicates the flow of the playback signal.
- (⟹) indicates the flow of the record signal.

＊Caution!

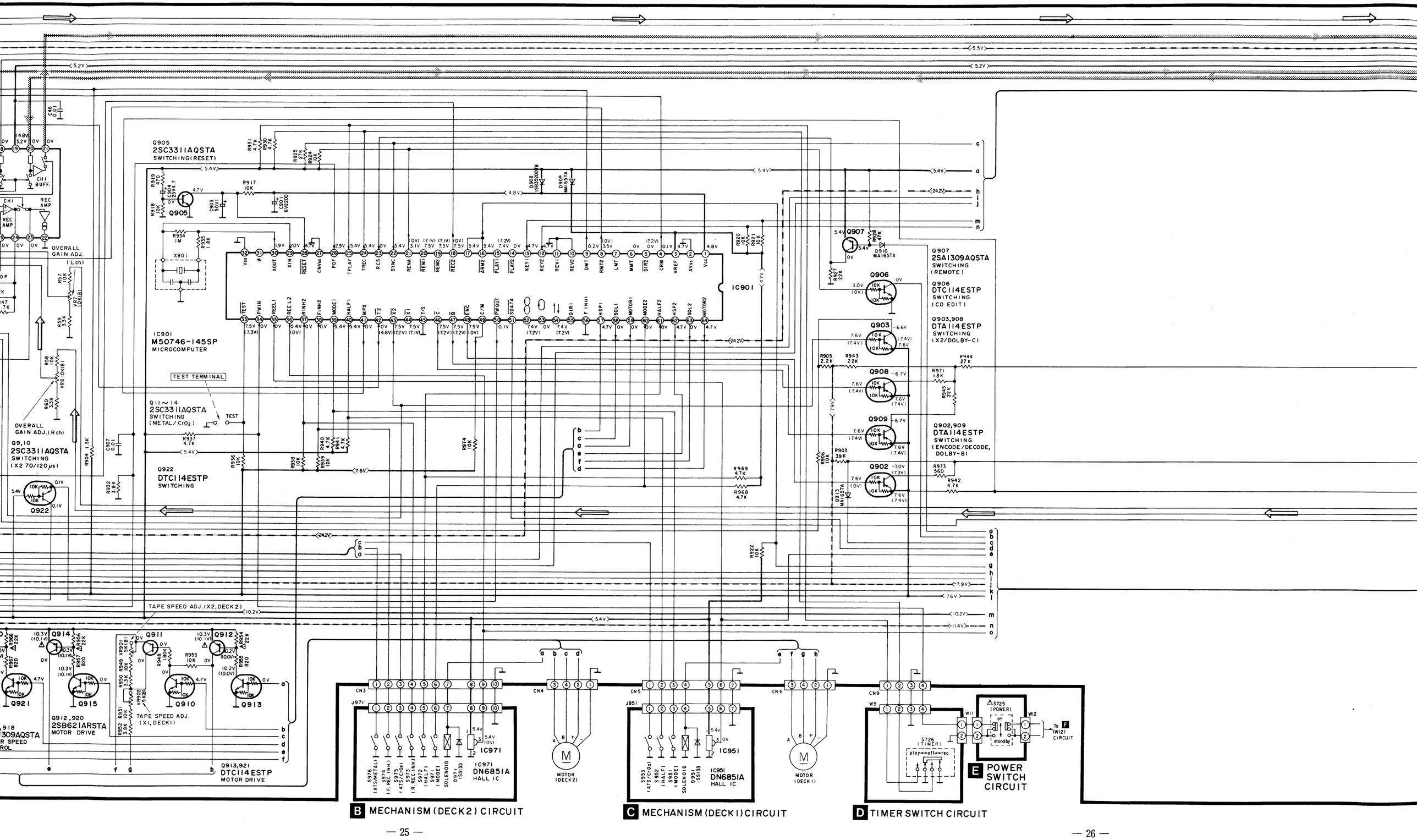
IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
＊ Cover the parts boxes made of plastics with aluminum foil.
＊ Ground the soldering iron.
＊ Put a conductive mat on the work table.
＊ Do not touch the legs of IC or LSI with the fingers directly.



N CIRCUIT


Q1,2
2SJ164PQRTA
REC MUTING
Q901
2SC3311AQSTA
SWITCHING(REC:ON)
IC1
AN7384
ELECTRIC VOLUME
IC2
AN7351K
PLAYBACK/REC AMP
PLAYBACK GAIN ADJ.(Lch,DECK1)
PLAYBACK GAIN ADJ.(Lch,DECK2)
Q3,4
2SJ164PQRTA
SWITCHING(PLAY:ON)
Q301,302
2SC3311AQSTA
BIAS OSC CONTROL
Q304
2SB1030RSTTA
BIAS OSC CONTROL
Q304
2SD592AQRSTA
BIAS OSC CONT.
ERASE CURRENT ADJ.
Q303
2SB621ARSTA
BIAS OSC CONT.
DECK2 ERASE CURRENT ADJ. TEST POINT
Q5,6
2SA1309AQSTA
SWITCHING
(X2 70/120μs)
PLAYBACK GAIN ADJ.(Rch,DECK1)
PLAYBACK GAIN ADJ.(Rch,DECK2)
OVERALL GAIN ADJ.(Lch)
OVERALL GAIN ADJ.(Rch)
Q7,8
2SA1309AQSTA
SWITCHING(METAL/CrO2)
Q9,10
2SC3311AQSTA
SWITCHING
(X2 70/120μs)
Q922
DTC114ESTP
SWITCHING
Q905
2SC3311AQSTA
SWITCHING(RESET)
IC901
M50746-145SP
MICROCOMPUTER
TEST TERMINAL
Q11~14
2SC3311AQSTA
SWITCHING
(METAL/CrO2)
TAPE SPEED ADJ.(X2,DECK2)
TAPE SPEED ADJ.(X1,DECK1)
Q601
2SA1309AQSTA
STABILIZER
Q603
2SC3311AQSTA
STABILIZER
Q604
2SD2037EFTA
REGULATOR
Q605
2SB1357DEFTA
REGULATOR
Q606
2SD592AQRSTA
REGULATOR
Q607
2SB621ARSTA
REGULATOR
Q914,916
2SB1030RSTTA
SOLENOID DRIVE
Q915,917
DTC114ESTP
SOLENOID DRIVE
Q910,919
DTC114ESTP
MOTOR SPEED CONTROL
Q911,918
2SA1309AQSTA
MOTOR SPEED CONTROL
Q912,920
2SB621ARSTA
MOTOR DRIVE
Q913,921
DTC114ESTP
MOTOR DRIVE
IC971
DN6851A
HALL IC
MOTOR (DECK2)
B MECHANISM (DECK2) CIRCUIT
C MECHANISM (D
For [EB,GN] areas.

9 10 11 12 13 14 15 16 17 18 19



IC3
M5218L
HEADPHONES AMP

L ch
JK1-2
LINE OUT
R ch

F HEADPHONES CIRCUIT

JK2
HEADPHONES

To E (WI12) CIRCUIT

JK3
SYNCHRO EDIT

JK4
IN
REMOTE CONTROL
OUT
JK5

CN10
CN12
CN11

IC401,402
TEA0665
DOLBY B/C NR

IC401

Q15,16
2SD1450RSTTA
MUTING

Q401~404
2SC3311AQSTA
MPX CONTROL

IC402
(Rch)

B/C OFF
R/P
OFF/B/C
POWER SUPPLY
B/C

Dolby B ON:-0.6V(-0.3V)
Dolby C ON: 6.2V(5.9V)

G FL METER CIRCUIT

FL551 (RSL0005F) FL METER

IC552
M5218L
FL METER DRIVE

IC552

Q551
2SA1309AQSTA
SWITCHING(RESET)

IC551
HD404302SA
FL METER DRIVE

D551~554
MA165TA

H OPERATION (DECK 1) CIRCUIT

CN7

ST701 (■ STOP)
ST702 (▶▶ CUE/REVIEW)
ST703 (◀◀ REVIEW/CUE)
ST704 (● REC)
ST709 (▶ PLAY)

I OPERATION (DECK2) CIRCUIT

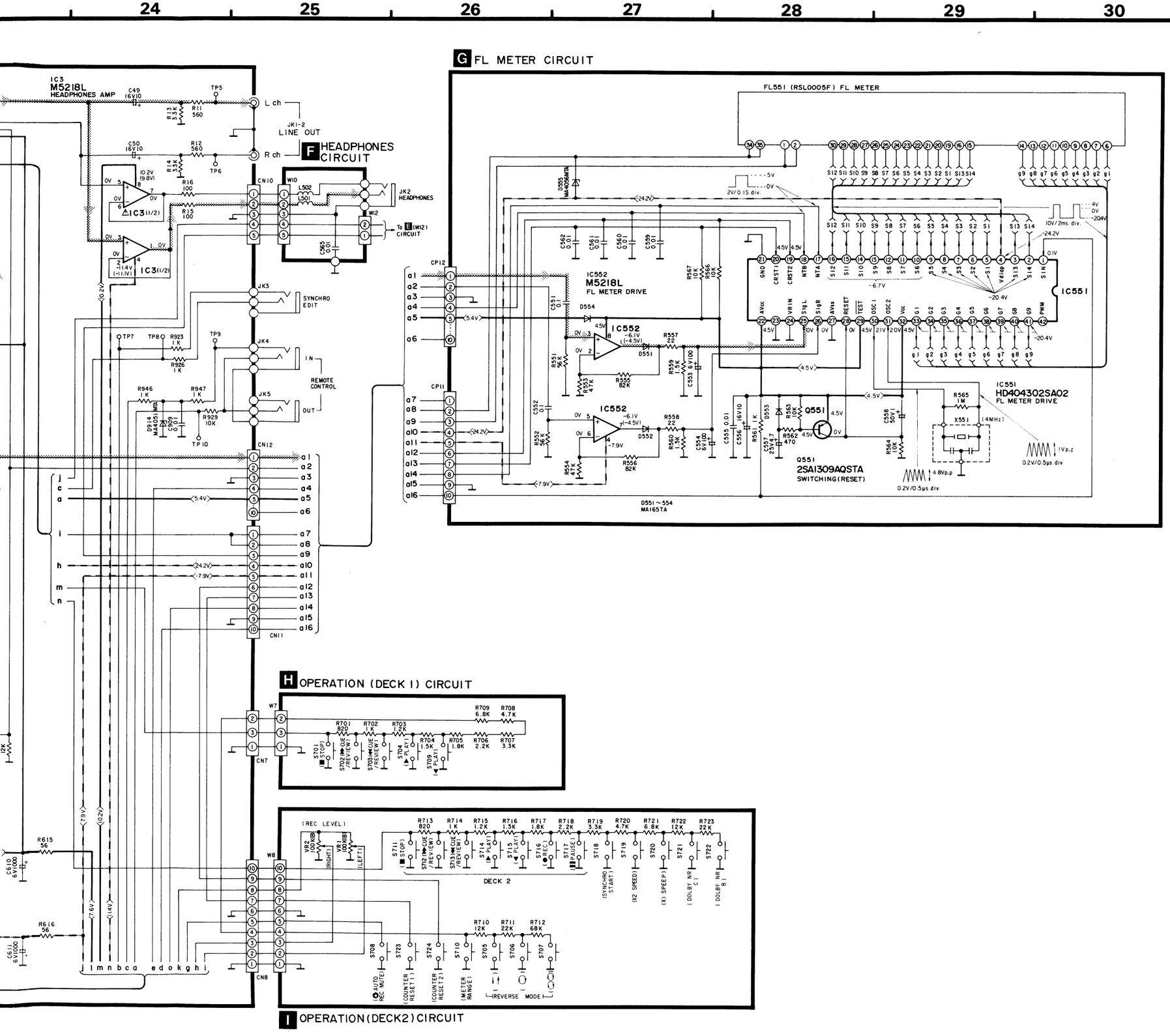
CN8

(REC LEVEL)
VR2 100KB (RIGHT)
VR1 100KB (LEFT)

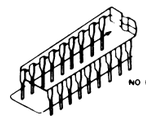
ST711 (■ STOP)
ST712 (▶▶ CUE/REVIEW)
ST713 (◀◀ REVIEW/CUE)
ST714 (▶ PLAY)
ST715 (▶ PLAY)
ST716 (● REC)
ST717 (❚❚ PAUSE)
ST718 (SYNCHRO START)
ST719
ST720 (X2 SPEED)
ST721 (X1 SPEED)
ST722 (DOLBY NR C)
ST723 (DOLBY NR B)

DECK 2

ST708 (AUTO REC MUTE)
ST723 (COUNTER RESET)
ST724 (COUNTER RESET)
ST710 (METER RANGE)
ST705 (REVERSE MODE)
ST706
ST707

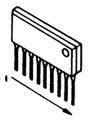


■ TERMINAL GUIDE OF IC's, TRANSISTORS AND DIODES



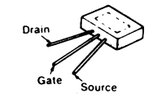
AN7384	16 Pin
UPC1297CA	18 Pin
TEA0665	28 Pin
AN7351K	42 Pin
HD404302SA02	42 Pin
M50746-145SP	64 Pin

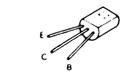
DN6851A	3 Pin



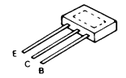
M5218L	8 Pin

2SJ164PQRTA



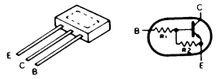


2SB621ARSTA
2SD592QRSTA

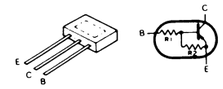


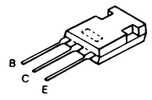
2SA1309AQSTA
2SC3311AQSTA
2SD1450RSTTA
2SB1030RSTTA

DTC114ESTP

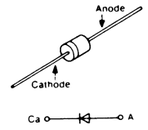


DTA114ESTP

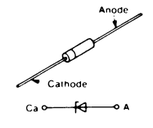




2SB1357DEFTA
2SD2037EFTA



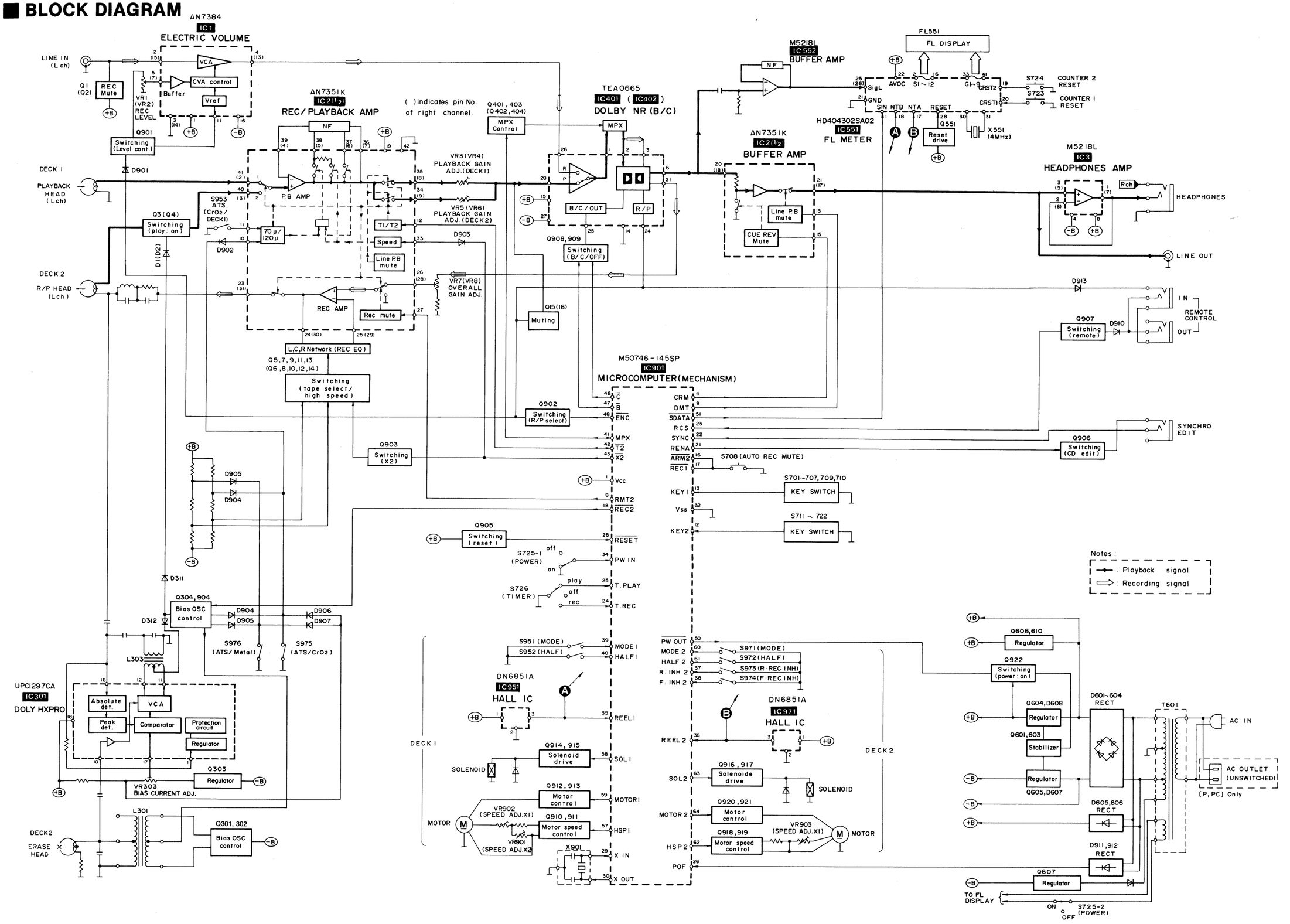
MA167TA
MA165TA
1SR35200TB
1SS133



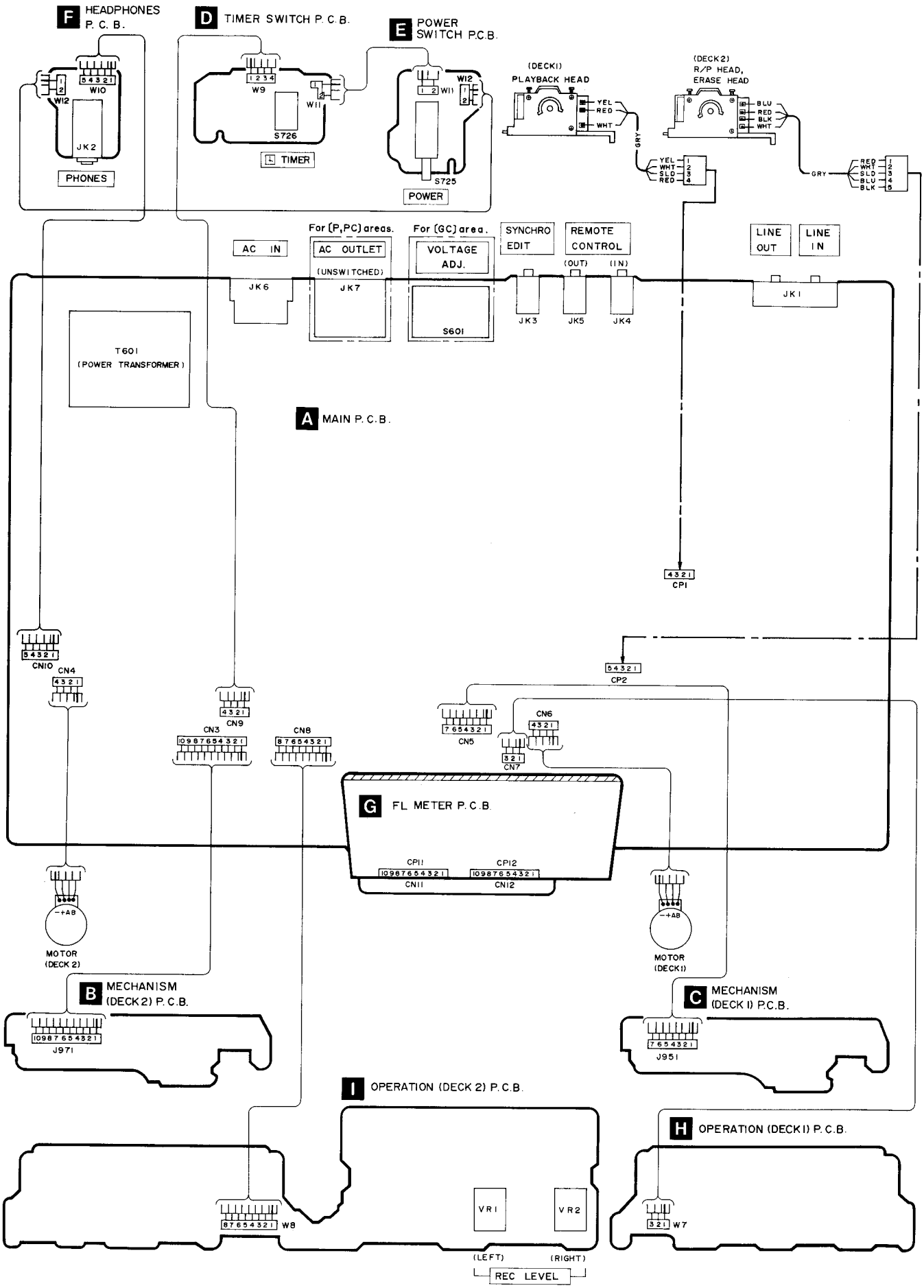
MA4062LTA
MA4240MTA
MA4082MTA
MA4051MTA
MA4056MTA

RS-TR355

■ BLOCK DIAGRAM



■ WIRING CONNECTION DIAGRAM



■ RESISTORS & CAPACITORS

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Remarks columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Numbering System For Resistors

Example:

ERD	25	F	J	102
Type	Wattage (1/4W)	Shape	Tolerance	Value (1KΩ)
ERX	2	AN	J	471
Type	Wattage (2W)	Shape	Tolerance	Value (470Ω)

Numbering System For Capacitors

Example:

ECKD	1H	102	Z	F
Type	Voltage (50V)	Value (0.001μF)	Tolerance	Unique
ECEA	50	M	330	
Type	Voltage (50V)	Characteristics	Value (33μF)	

● P=Pico-farads (pF), U=microfarads (μF).
● Resistance values are in ohms (Ω), unless specified otherwise, 1K=1,000Ω, 1M=1,000kΩ

Resistor Type		Wattage		Tolerance
ERD	: Carbon	10 : 1/8W	12 : 1/2W	J : ±5%
ERG	: Metal Oxide	14 : 1/4W	25 : 1/4W	F : ±1%
ERQ	: Fuse Type Metal	1A : 1W	18 : 1/8W	G : ±2%
ERX	: Metal Film	S2 : 1/4W	S1 : 1/2W	J : ±5%
ERD L	: Carbon (chip)	2F : 1/4W	50 : 1/2W	K : ±10%
ERO K	: Metal Film (chip)	2A : 2W	3A : 3W	M : ±20%
ERC	: Solid	6G : 1/10W	8G : 1/8W	
ERF	: Incombustible Box-Shaped			
ERM	: Wire-Wound			
RRJ	: Chip Resistor			
ERJ	: Chip Resistor			

Capacitor Type		Voltage		Tolerance
ECE	: Electrolytic	0J : 6.3V	1A : 10V	K : ±10%
ECCD	: Ceramic	1C : 16V	1E : 25V	M : ±20%
ECKD	: Ceramic Capacitor	1H : 50V	1V : 35V	Z : +80 −20 %
ECQM	: Polyester	50 : 50V	05 : 50V	J : ±5%
ECQP	: Polypropylene	2H : 500V	2A : 100V	G : ±2%
ECG	: Ceramic	1 : 100V	1J : 63V	F : ±1%
ECEA N	: Non Polar Electrolytic	KC : 400V AC		C : ±0.25pF
QCU	: Ceramic (Chip Type)	KC : 125V AC (UL)		D : ±0.5pF
ECUX	: Ceramic (Chip Type)			
ECF	: Semiconductor			
EECW	: Liquid electrolyte double layer capacitor			

Ref. No.	Part No.	Part Name & Description	Remarks
		RESISTORS	
R1	ERDS2TJ394T	C. RESISTOR 1/4W 390K	
R2	ERDS2TJ394T	C. RESISTOR 1/4W 390K	
R3	ERDS2TJ393T	C. RESISTOR 1/4W 39K	
R4	ERDS2TJ393T	C. RESISTOR 1/4W 39K	
R5	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R6	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R7	ERDS2TJ225	C. RESISTOR 1/4W 2.2M	
R8	ERDS2TJ225	C. RESISTOR 1/4W 2.2M	
R9	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R10	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R11	ERDS2TJ561T	C. RESISTOR 1/4W 560	
R12	ERDS2TJ561T	C. RESISTOR 1/4W 560	
R13	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R14	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R15	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R16	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R19	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R20	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R21	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R22	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R23	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R24	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R25	ERDS2TJ225	C. RESISTOR 1/4W 2.2M	
R26	ERDS2TJ225	C. RESISTOR 1/4W 2.2M	
R27	ERDS2TJ820T	C. RESISTOR 1/4W 82	
R28	ERDS2TJ820T	C. RESISTOR 1/4W 82	
R29	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R30	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R31	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R32	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R33	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R34	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R35	ERDS2TJ474T	C. RESISTOR 1/4W 470K	
R36	ERDS2TJ474T	C. RESISTOR 1/4W 470K	
R37	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R38	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R43	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R44	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R45	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R46	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R47	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R48	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R49	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R50	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R51	ERDS2TJ560	C. RESISTOR 1/4W 56	
R52	ERDS2TJ560	C. RESISTOR 1/4W 56	
R53	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R54	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R55	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R56	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R57	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R58	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R59	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	

Ref. No.	Part No.	Part Name & Description	Remarks
R60	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R63	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R64	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R65	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R66	ERDS2TJ682T	C. RESISTOR 1/4W 6.8K	
R67	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R301	ERDS2TJ1R0T	C. RESISTOR 1/4W 1.0	
R302	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R303	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R304	ERDS2TJ100T	C. RESISTOR 1/4W 10	
R305	ERDS2TJ100T	C. RESISTOR 1/4W 10	
R306	ERDS2TJ471T	C. RESISTOR 1/4W 470	
R307	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R311	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R312	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R313	ERDS2TJ154T	C. RESISTOR 1/4W 150K	
R314	ERDS2TJ154T	C. RESISTOR 1/4W 150K	
R315	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R316	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R319	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R329	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R401	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R402	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R403	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R404	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R405	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
R406	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
R407	ERDS2TJ242	C. RESISTOR 1/4W 2.4K	
R408	ERDS2TJ242	C. RESISTOR 1/4W 2.4K	
R409	ERDS2TJ684T	C. RESISTOR 1/4W 680K	
R410	ERDS2TJ684T	C. RESISTOR 1/4W 680K	
R411	ERDS2TJ684T	C. RESISTOR 1/4W 680K	
R412	ERDS2TJ684T	C. RESISTOR 1/4W 680K	
R413	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R414	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R415	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R416	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R417	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R418	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R419	ERDS2TJ333T	C. RESISTOR 1/4W 33K	
R420	ERDS2TJ333T	C. RESISTOR 1/4W 33K	
R421	ERDS2TJ823T	C. RESISTOR 1/4W 82K	
R422	ERDS2TJ823T	C. RESISTOR 1/4W 82K	
R423	ERDS2TJ823T	C. RESISTOR 1/4W 82K	
R424	ERDS2TJ823T	C. RESISTOR 1/4W 82K	
R425	ERDS2TJ683T	C. RESISTOR 1/4W 68K	
R426	ERDS2TJ683T	C. RESISTOR 1/4W 68K	
R427	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R428	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R429	ERDS2TJ512	C. RESISTOR 1/4W 5.1K	
R430	ERDS2TJ512	C. RESISTOR 1/4W 5.1K	
R551	ERDS2TJ563	C. RESISTOR 1/4W 56K	

Ref. No.	Part No.	Part Name & Description	Remarks
R552	ERDS2TJ563	C. RESISTOR 1/4W 56K	
R553	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R554	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R555	ERDS2TJ823T	C. RESISTOR 1/4W 82K	
R556	ERDS2TJ823T	C. RESISTOR 1/4W 82K	
R557	ERDS2TJ220T	C. RESISTOR 1/4W 22	
R558	ERDS2TJ220T	C. RESISTOR 1/4W 22	
R559	ERDS2TJ152T	C. RESISTOR 1/4W 1.5K	
R560	ERDS2TJ152T	C. RESISTOR 1/4W 1.5K	
R561	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R562	ERDS2TJ471T	C. RESISTOR 1/4W 470	
R563	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R564	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R565	ERDS2TJ105T	C. RESISTOR 1/4W 1M	
R566	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R567	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R601	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	⚠
R602	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R603	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R604	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	⚠
R605	ERDS1FJ150	C. RESISTOR 1/2W 15	(P, PC, E, E5, EG, GC) ⚠
R605	ERD2FCVG150T	C. RESISTOR 1/4W 15	(EB, GN) ⚠
R606	ERDS1FVJ100T	C. RESISTOR 1/2W 10	(P, PC, E, E5, EG, GC) ⚠
R606	ERD2FCVG100T	C. RESISTOR 1/4W 10	(EB, GN) ⚠
R607	ERDS2TJ391	C. RESISTOR 1/4W 390	
R608	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R609	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R610	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R611	ERDS1FVJ100T	C. RESISTOR 1/2W 10	(P, PC, E, E5, EG, GC) ⚠
R611	ERD2FCVG100T	C. RESISTOR 1/4W 10	(EB, GN) ⚠
R612	ERDS1FVJ100T	C. RESISTOR 1/2W 10	(P, PC, E, E5, EG, GC) ⚠
R612	ERD2FCVG100T	C. RESISTOR 1/4W 10	(EB, GN) ⚠
R613	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R614	ERDS2TJ102T	C. RESISTOR 1/4W 1K	⚠
R615	ERDS2TJ560	C. RESISTOR 1/4W 56	
R616	ERDS2TJ560	C. RESISTOR 1/4W 56	
R617	ERQ16NKR15E	F. RESISTOR 1/6W 0.15	(EB, GN) ⚠
R618	ERQ16NKR15E	F. RESISTOR 1/6W 0.15	(EB, GN) ⚠
R619	ERDS2TJ560	C. RESISTOR 1/4W 56	(EB, GN)
R620	ERDS2TJ560	C. RESISTOR 1/4W 56	(EB, GN)
R621	ERDS2TJ560	C. RESISTOR 1/4W 56	(EB, GN)
R622	ERQ16NKR15E	F. RESISTOR 1/6W 0.15	(EB, GN) ⚠
R623	ERDS2TJ560	C. RESISTOR 1/4W 56	(EB, GN)
R701	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R702	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R703	ERDS2TJ122T	C. RESISTOR 1/4W 1.2K	
R704	ERDS2TJ152T	C. RESISTOR 1/4W 1.5K	
R705	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R706	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R707	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R708	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R709	ERDS2TJ682T	C. RESISTOR 1/4W 6.8K	

Ref. No.	Part No.	Part Name & Description	Remarks
R710	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
R711	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R712	ERDS2TJ683T	C. RESISTOR 1/4W 68K	
R713	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R714	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R715	ERDS2TJ122T	C. RESISTOR 1/4W 1.2K	
R716	ERDS2TJ152T	C. RESISTOR 1/4W 1.5K	
R717	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R718	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R719	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R720	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R721	ERDS2TJ682T	C. RESISTOR 1/4W 6.8K	
R722	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
R723	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R901	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R902	ERDS2TJ563	C. RESISTOR 1/4W 56K	
R903	ERDS2TJ393T	C. RESISTOR 1/4W 39K	
R904	ERDS2TJ152T	C. RESISTOR 1/4W 1.5K	
R905	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R906	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R907	ERDS2TJ563	C. RESISTOR 1/4W 56K	
R908	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R909	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R910	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R911	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R912	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R913	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R914	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R915	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R916	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R917	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R918	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R919	ERDS2TJ471T	C. RESISTOR 1/4W 470	
R920	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R921	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R922	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R923	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R924	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R925	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R926	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R927	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R928	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R929	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R930	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R931	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R932	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R933	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R934	ERDS2TJ105T	C. RESISTOR 1/4W 1M	
R935	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R936	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R937	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R938	ERDS2TJ103T	C. RESISTOR 1/4W 10K	

Ref. No.	Part No.	Part Name & Description	Remarks
R939	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R940	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R941	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R942	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R943	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R944	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R945	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R946	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R947	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R948	ERDS2TJ184	C. RESISTOR 1/4W 180K	
R949	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R950	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R951	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R952	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R953	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R954	ERDS2TJ223T	C. RESISTOR 1/4W 22K	⚠
R955	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R956	ERDS2TJ223T	C. RESISTOR 1/4W 22K	⚠
R957	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R958	ERDS2TJ223T	C. RESISTOR 1/4W 22K	⚠
R959	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R960	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R961	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R962	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R963	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R964	ERDS2TJ184	C. RESISTOR 1/4W 180K	
R965	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R966	ERDS2TJ223T	C. RESISTOR 1/4W 22K	⚠
R967	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R968	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R969	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R971	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R973	ERDS2TJ561T	C. RESISTOR 1/4W 560	
R974	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
		CAPACITORS	
C1	ECEA1HK010B	E. CAPACITOR 50V 1U	
C2	ECEA1HK010B	E. CAPACITOR 50V 1U	
C3	ECEA1HK010B	E. CAPACITOR 50V 1U	
C4	ECEA1HK010B	E. CAPACITOR 50V 1U	
C5	ECEA1CK220B	E. CAPACITOR 16V 22U	
C6	ECEA1CK220B	E. CAPACITOR 16V 22U	
C7	ECBT1H561KB5	C. CAPACITOR 50V 560P	
C8	ECBT1H561KB5	C. CAPACITOR 50V 560P	
C9	RCBS1H331KBY	C. CAPACITOR 50V 330P	
C10	RCBS1H331KBY	C. CAPACITOR 50V 330P	
C11	ECBT1H102KB5	C. CAPACITOR 50V 1000P	
C12	ECBT1H102KB5	C. CAPACITOR 50V 1000P	
C13	ECEA0JU101B	E. CAPACITOR 6.3V 100U	
C14	ECEA0JU101B	E. CAPACITOR 6.3V 100U	
C15	ECQB1H682JZ3	P. CAPACITOR 50V 6800P	

Ref. No.	Part No.	Part Name & Description	Remarks
C16	ECQB1H682JZ3	P. CAPACITOR 50V 6800P	
C17	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C18	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C19	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C20	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C21	ECEA0JU101B	E. CAPACITOR 6.3V 100U	
C25	ECEA1HK010B	E. CAPACITOR 50V 1U	
C26	ECEA1HK010B	E. CAPACITOR 50V 1U	
C27	ECBT1H561KB5	C. CAPACITOR 50V 560P	
C28	ECBT1H561KB5	C. CAPACITOR 50V 560P	
C29	ECKD2H101KB	C. CAPACITOR 500V 100P	
C30	ECKD2H101KB	C. CAPACITOR 500V 100P	
C31	ECCT1H181K	C. CAPACITOR 50V 180P	
C32	ECCT1H181K	C. CAPACITOR 50V 180P	
C33	ECEA1HKR47	E. CAPACITOR 50V 0.47U	
C34	ECEA1HKR47	E. CAPACITOR 50V 0.47U	
C35	ECQB1H472JZ3	P. CAPACITOR 50V 4700P	
C36	ECQB1H472JZ3	P. CAPACITOR 50V 4700P	
C37	ECQB1H223JZ3	P. CAPACITOR 50V 0.022U	
C38	ECQB1H223JZ3	P. CAPACITOR 50V 0.022U	
C39	ECQB1H103JZ	P. CAPACITOR 50V 0.01U	
C40	ECQB1H103JZ	P. CAPACITOR 50V 0.01U	
C41	ECQB1H223JZ3	P. CAPACITOR 50V 0.022U	
C42	ECQB1H223JZ3	P. CAPACITOR 50V 0.022U	
C43	ECQB1H562JZ3	P. CAPACITOR 50V 5600P	
C44	ECQB1H562JZ3	P. CAPACITOR 50V 5600P	
C45	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C46	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C49	ECEA1CK100B	E. CAPACITOR 16V 10U	
C50	ECEA1CK100B	E. CAPACITOR 16V 10U	
C53	ECQB1H223JZ3	P. CAPACITOR 50V 0.022U	
C54	ECQB1H223JZ3	P. CAPACITOR 50V 0.022U	
C55	ECBT1H102KB5	C. CAPACITOR 50V 1000P	
C58	ECEA1CU470	E. CAPACITOR 16V 47U	
C301	ECQP1153JZ	P. CAPACITOR 50V 0.015U	
C302	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C303	ECKD1H392K	C. CAPACITOR 50V 3900P	
C304	ECFR1E222KAY	S. CAPACITOR 25V 2200P	
C305	ECFR1E222KAY	S. CAPACITOR 25V 2200P	
C306	ECFR1E682KAY	S. CAPACITOR 25V 6800P	
C309	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C310	ECKD1H472KB	C. CAPACITOR 50V 4700P	
C311	ECEA1AU221B	E. CAPACITOR 10V 220U	
C313	ECQB1H223JZ3	P. CAPACITOR 50V 0.022U	
C314	ECQB1H223JZ3	P. CAPACITOR 50V 0.022U	
C315	ECBT1H821KB5	C. CAPACITOR 50V 820P	
C316	ECBT1H821KB5	C. CAPACITOR 50V 820P	
C317	ECCD1H121K	C. CAPACITOR 50V 120P	
C318	ECCD1H121K	C. CAPACITOR 50V 120P	
C319	ECQV1H104JZ3	P. CAPACITOR 50V 0.1U	
C320	ECQV1H104JZ3	P. CAPACITOR 50V 0.1U	
C321	ECQB1H223JZ3	P. CAPACITOR 50V 0.022U	

Ref. No.	Part No.	Part Name & Description	Remarks
C322	ECQB1H223JZ3	P. CAPACITOR 50V 0.022U	
C323	ECQB1H103JZ	P. CAPACITOR 50V 0.01U	
C324	ECQB1H103JZ	P. CAPACITOR 50V 0.01U	
C325	ECKD1H122KB	C. CAPACITOR 50V 1200P	
C326	ECKD1H122KB	C. CAPACITOR 50V 1200P	
C328	ECCT1H100K	C. CAPACITOR 50V 10P	
C401	ECCT1H820K	C. CAPACITOR 50V 82P	
C402	ECCT1H820K	C. CAPACITOR 50V 82P	
C403	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C404	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C405	ECKD1H122KB	C. CAPACITOR 50V 1200P	
C406	ECKD1H122KB	C. CAPACITOR 50V 1200P	
C407	ECKT1H152KB	C. CAPACITOR 50V 1500P	
C408	ECKT1H152KB	C. CAPACITOR 50V 1500P	
C409	ECQB1H472JZ3	P. CAPACITOR 50V 4700P	
C410	ECQB1H472JZ3	P. CAPACITOR 50V 4700P	
C411	ECEA1CK100B	E. CAPACITOR 16V 10U	
C412	ECEA1CK100B	E. CAPACITOR 16V 10U	
C413	ECQV1H473JZ	P. CAPACITOR 50V 0.047U	
C414	ECQV1H473JZ	P. CAPACITOR 50V 0.047U	
C415	ECQV1H224JZ3	P. CAPACITOR 50V 0.22U	
C416	ECQV1H224JZ3	P. CAPACITOR 50V 0.22U	
C417	ECEA1HKR68	E. CAPACITOR 50V 0.68U	
C418	ECEA1HKR68	E. CAPACITOR 50V 0.68U	
C419	ECEA1HKR68	E. CAPACITOR 50V 0.68U	
C420	ECEA1HKR68	E. CAPACITOR 50V 0.68U	
C421	ECQV1H224JZ3	P. CAPACITOR 50V 0.22U	
C422	ECQV1H224JZ3	P. CAPACITOR 50V 0.22U	
C423	ECQV1H473JZ	P. CAPACITOR 50V 0.047U	
C424	ECQV1H473JZ	P. CAPACITOR 50V 0.047U	
C425	ECEA1CK100B	E. CAPACITOR 16V 10U	
C426	ECEA1CK100B	E. CAPACITOR 16V 10U	
C427	ECQB1H472JZ3	P. CAPACITOR 50V 4700P	
C428	ECQB1H472JZ3	P. CAPACITOR 50V 4700P	
C429	ECQB1H103JZ	P. CAPACITOR 50V 0.01U	
C430	ECQB1H103JZ	P. CAPACITOR 50V 0.01U	
C431	ECEA1CK100B	E. CAPACITOR 16V 10U	
C432	ECEA1CK100B	E. CAPACITOR 16V 10U	
C551	ECQV1H104JZ3	P. CAPACITOR 50V 0.1U	
C552	ECQV1H104JZ3	P. CAPACITOR 50V 0.1U	
C553	ECEA0JK101B	E. CAPACITOR 6.3V 100U	
C554	ECEA0JK101B	E. CAPACITOR 6.3V 100U	
C555	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C556	ECEA1CK100B	E. CAPACITOR 16V 10U	
C557	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C558	ECEA1HK010B	E. CAPACITOR 50V 1U	
C559	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C560	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C561	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C562	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C565	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C601	ECKT2H682PEL	C. CAPACITOR 500V 6800P	⚠

Ref. No.	Part No.	Part Name & Description	Remarks
C602	ECEA1EU102B	E. CAPACITOR 25V 1000U	⚠
C603	ECEA1EU102B	E. CAPACITOR 25V 1000U	⚠
C604	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	⚠
C605	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C606	ECEA1AU221B	E. CAPACITOR 10V 220U	
C607	ECEA1AU221B	E. CAPACITOR 10V 220U	
C608	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C609	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C610	ECEA0JU102E	E. CAPACITOR 6.3V 1000U	

Ref. No.	Part No.	Part Name & Description	Remarks
C611	ECEA0JU102E	E. CAPACITOR 6.3V 1000U	
C612	ECEA1EU222E	E. CAPACITOR 25V 2200U	⚠
C613	ECEA1HU470	E. CAPACITOR 50V 47U	
C901	ECEA0JU222B	E. CAPACITOR 6.3V 2200U	
C903	ECEA1HK010B	E. CAPACITOR 50V 1U	
C904	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C907	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C909	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	

■ REPLACEMENT PARTS LIST

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* **Bracketed indications in Remarks columns specify the area. (Refer to the first page for area.)**
Parts without these indications can be used for all areas.
* **"(K)" mark parts are used for black type only.**
* **"(S)" mark parts are used for silver type only.**
Parts other than "(K)" and "(S)" marked are used for all color types.

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUITS	
IC1	AN7384	IC, ELECTRIC VOLUME	
IC2	AN7351K	IC, PLAYBACK/REC AMP	
IC3	M5218L	IC, HEADPHONES AMP	⚠
IC301	UPC1297CA	IC, DOLBY HX PRO	
IC401	TEA0665	IC, DOLBY B/C NR	
IC402	TEA0665	IC, DOLBY B/C NR	
IC551	HD404302SA02	IC, MICROCOMPUTER, FL METER	
IC552	M5218L	IC, BUFFER AMP	
IC901	M50746-145SP	IC, MICROCOMPUTER, MECHANICAL	
IC951	DN6851A	IC, HALL	
IC971	DN6851A	IC, HALL	
		TRANSISTORS	
Q1	2SJ164PQRTA	TRANSISTOR	
Q2	2SJ164PQRTA	TRANSISTOR	
Q3	2SJ164PQRTA	TRANSISTOR	
Q4	2SJ164PQRTA	TRANSISTOR	
Q5	2SA1309AQSTA	TRANSISTOR	
Q6	2SA1309AQSTA	TRANSISTOR	
Q7	2SA1309AQSTA	TRANSISTOR	
Q8	2SA1309AQSTA	TRANSISTOR	
Q9	2SC3311A-Q	TRANSISTOR	
Q10	2SC3311A-Q	TRANSISTOR	
Q11	2SC3311A-Q	TRANSISTOR	

Ref. No.	Part No.	Part Name & Description	Remarks
Q12	2SC3311A-Q	TRANSISTOR	
Q13	2SC3311A-Q	TRANSISTOR	
Q14	2SC3311A-Q	TRANSISTOR	
Q15	2SD1450RSTTA	TRANSISTOR	
Q16	2SD1450RSTTA	TRANSISTOR	
Q301	2SC3311A-Q	TRANSISTOR	
Q302	2SC3311A-Q	TRANSISTOR	
Q303	2SB621ARSTA	TRANSISTOR	
Q304	2SD592A	TRANSISTOR	
Q401	2SC3311A-Q	TRANSISTOR	
Q402	2SC3311A-Q	TRANSISTOR	
Q403	2SC3311A-Q	TRANSISTOR	
Q404	2SC3311A-Q	TRANSISTOR	
Q551	2SA1309AQSTA	TRANSISTOR	
Q601	2SA1309AQSTA	TRANSISTOR	⚠
Q603	2SC3311A-Q	TRANSISTOR	⚠
Q604	2SD2037EFTA	TRANSISTOR	
Q605	2SB1357DEFTA	TRANSISTOR	
Q606	2SD592A	TRANSISTOR	
Q607	2SB621ARSTA	TRANSISTOR	
Q901	2SC3311A-Q	TRANSISTOR	
Q902	DTA114ESTP	TRANSISTOR	
Q903	DTA114ESTP	TRANSISTOR	
Q904	2SB1030RSTTA	TRANSISTOR	
Q905	2SC3311A-Q	TRANSISTOR	
Q906	DTC114ESTP	TRANSISTOR	
Q907	2SA1309AQSTA	TRANSISTOR	
Q908	DTA114ESTP	TRANSISTOR	

Ref. No.	Part No.	Part Name & Description	Remarks
Q909	DTA114ESTP	TRANSISTOR	
Q910	DTC114ESTP	TRANSISTOR	
Q911	2SA1309AQSTA	TRANSISTOR	
Q912	2SB621ARSTA	TRANSISTOR	⚠
Q913	DTC114ESTP	TRANSISTOR	
Q914	2SB1030RSTTA	TRANSISTOR	⚠
Q915	DTC114ESTP	TRANSISTOR	
Q916	2SB1030RSTTA	TRANSISTOR	⚠
Q917	DTC114ESTP	TRANSISTOR	
Q918	2SA1309AQSTA	TRANSISTOR	
Q919	DTC114ESTP	TRANSISTOR	
Q920	2SB621ARSTA	TRANSISTOR	⚠
Q921	DTC114ESTP	TRANSISTOR	
Q922	DTC114ESTP	TRANSISTOR	
		DIODES	
D1	MA167TA	DIODE	
D2	MA167TA	DIODE	
D311	MA165TA	DIODE	
D312	MA165TA	DIODE	
D313	MA4082MTA	DIODE	
D551	MA165TA	DIODE	
D552	MA165TA	DIODE	
D553	MA165TA	DIODE	
D554	MA165TA	DIODE	
D555	MA4056MTA	DIODE	
D601	1SR35200TB	DIODE	⚠
D602	1SR35200TB	DIODE	⚠
D603	1SR35200TB	DIODE	⚠
D604	1SR35200TB	DIODE	⚠
D605	1SR35200TB	DIODE	⚠
D606	1SR35200TB	DIODE	⚠
D607	MA4082MTA	DIODE	
D608	MA4082MTA	DIODE	
D609	MA4240H	DIODE	
D610	MA4062LTA	DIODE	
D611	1SR35200TB	DIODE	⚠
D612	MA165TA	DIODE	
D901	MA165TA	DIODE	
D902	MA165TA	DIODE	
D903	MA165TA	DIODE	
D904	MA165TA	DIODE	
D905	MA165TA	DIODE	
D906	MA165TA	DIODE	
D907	MA165TA	DIODE	
D908	1SR35200TB	DIODE	
D909	MA165TA	DIODE	
D910	MA165TA	DIODE	
D911	MA165TA	DIODE	⚠
D912	MA165TA	DIODE	⚠
D913	MA165TA	DIODE	

Ref. No.	Part No.	Part Name & Description	Remarks
D914	MA4051MTA	DIODE	
D951	1SS133	DIODE	
D971	1SS133	DIODE	
		VARIABLE RESISTORS	
VR1	EVJ02FF01B15	V. R, REC. LEVEL CONTROL	
VR2	EVJ02FF01B15	V. R, REC. LEVEL CONTROL	
VR3	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.	
VR4	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.	
VR5	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.	
VR6	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.	
VR7	EVNDXAA00B14	V. R, OVERALL GAIN ADJ.	
VR8	EVNDXAA00B14	V. R, OVERALL GAIN ADJ.	
VR301	EVNDXAA00B14	V. R, ERASE CURRENT ADJ.	
VR302	EVNDXAA00B14	V. R, OVERALL FREQ. ADJ.	
VR303	EVNDXAA00B14	V. R, OVERALL FREQ. ADJ.	
VR901	EVN4LCA00B53	V. R, TAPE SPEED ADJ. (X2)	
VR902	EVN4LCA00B53	V. R, TAPE SPEED ADJ. (X1)	
VR903	EVN4LCA00B53	V. R, TAPE SPEED ADJ. (X1)	
		COILS	
L1	SLQX303-1KT	COIL	
L2	SLQX303-1KT	COIL	
L3	SLQX272-1YT	COIL	
L4	SLQX272-1YT	COIL	
L301	SL09B4-K	COIL	
L302	SL09B1-K	COIL	
L303	SL09B1-K	COIL	
L401	QLM9Z10K	COIL	
L402	QLM9Z10K	COIL	
L403	SLM1B8-K	COIL	
L404	SLM1B8-K	COIL	
L501	RLQZP101KT-Y	COIL	
L502	RLQZP101KT-Y	COIL	
		TRANSFORMERS	
T601	RTP1K4B005-V	POWER TRANSFORMER	(EB, GN) ⚠
T601	RTP1K4C003-V	POWER TRANSFORMER	(P, PC) ⚠
T601	RTP1K4E005-V	POWER TRANSFORMER	(E, E5, EG) ⚠
T601	RTP1K4E006-V	POWER TRANSFORMER	(GC) ⚠
		OSCILLATORS	
X551	EFOGC4004T4	CERAMIC FILTER	
X901	EFOGC4004T4	CERAMIC FILTER	
		DISPLAY TUBE	
FL551	RSL0005F	DISPLAY TUBE (FL METER)	

Ref. No.
S601
S701
S702
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S724
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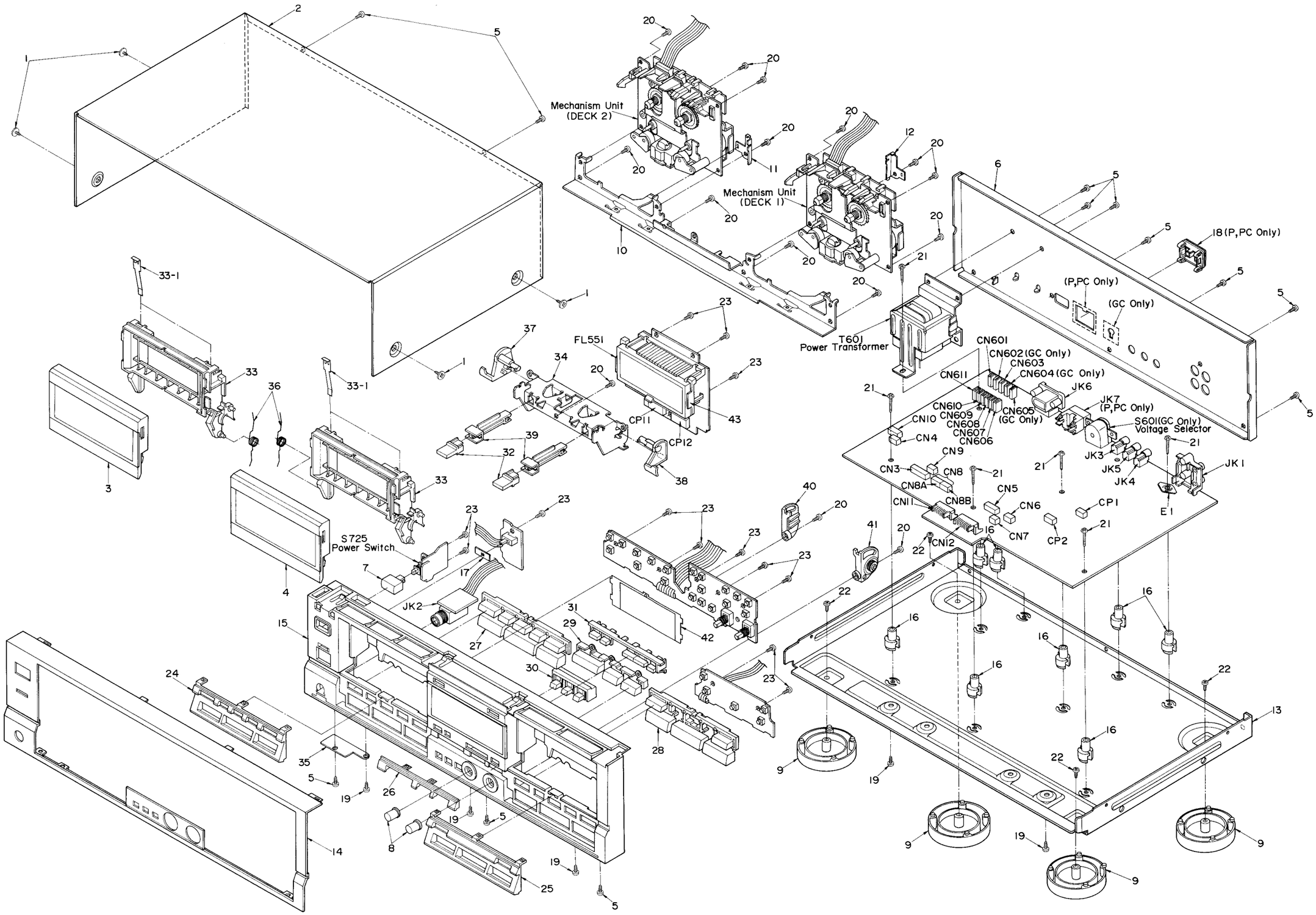
S726
S726
S951
S952
S953
S971
S972
S973
S974
S975
S976
CN3
CN4
CN5
CN6
CN7
CN8
CN8A
CN8B
CN9

Remarks

RS-TR355

■ CABINET PARTS LOCATION



■ REPLACEMENT PARTS LIST

Notes : * Important safety notice :
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* "(S)" mark parts are used for silver type only.
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Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	SNE2129-1	SCREW	(K)
1	SNE2129	SCREW	(S)
2	RKM0016-K	CABINET	(K)
2	RKM0016-S	CABINET	(S)
3	RYF0009F-K	CASSETTE LID (DECK 2)	(K)
3	RYF0009H-S	CASSETTE LID (DECK 2)	(S)
4	RYF0009E-K	CASSETTE LID (DECK 1)	(K)
4	RYF0009G-S	CASSETTE LID (DECK 1)	(S)
5	XTBS3+8JFZ1	SCREW	
6	RGR0008A-C	REAR PANEL	(P, PC)
6	RGR0008B-E	REAR PANEL	(EG)
6	RGR0008B-F	REAR PANEL	(E, E5)
6	RGR0008B-G	REAR PANEL	(EB)
6	RGR0008B-H	REAR PANEL	(GN)
6	RGR0008C-B	REAR PANEL	(GC)
7	RGU0030	BUTTON, POWER	(K)
7	RGU0030-S	BUTTON, POWER	(S)
8	RGW0012	KNOB, REC. LEVEL	(K)
8	RGW0012-S	KNOB, REC. LEVEL	(S)
9	RKA0009	FOOT	
10	RMA0050	BRACKET, MECHANISM	
11	RMA0113	DAMPER ANGLE (L)	
12	RMA0114	DAMPER ANGLE (R)	
13	RMK0026	BOTTOM BOARD	
14	RGG0019	FRONT PANEL ASS'Y	(K) (P, PC)
14	RGG0020	FRONT PANEL ASS'Y	(K) (E, E5, EB, EG, GC, GN)
14	RGG0021	FRONT PANEL ASS'Y	(S)
15	RGP0041	FRONT GRILLE ASS'Y	(K)
15	RGP0042	FRONT GRILLE ASS'Y	(S)
16	SHE187-2	HOLDER	
17	SHR6076	ORNAMENT	(K)
17	SHR6076-1	ORNAMENT	(S)
18	SJS9331A	AC OUTLET COVER	(P, PC)
19	XTBS3+10JFZ1	SCREW	
20	XTB3+10J	SCREW	
21	XTB3+20J	SCREW	
22	XTB3+6J	SCREW	
23	XTB3+8J	SCREW	
24	RGK0049	ORNAMENT, BUTTON (DECK 2)	(K)
24	RGK0049-S	ORNAMENT, BUTTON (DECK 2)	(S)
25	RGK0075	ORNAMENT, BUTTON (DECK 1)	(K)
25	RGK0075-S	ORNAMENT, BUTTON (DECK 1)	(S)
26	RGK0051	ORNAMENT, EDIT BUTTON	(K)
26	RGK0051-S	ORNAMENT, EDIT BUTTON	(S)
27	RGU0064	BUTTON, OPERATION (DECK 2)	(K)
27	RGU0064-S	BUTTON, OPERATION (DECK 2)	(S)
28	RGU0136	BUTTON ASS'Y, OPERATION	(K)
		(DECK 1)	
28	RGU0138	BUTTON ASS'Y, OPERATION	(S)
		(DECK 1)	
29	RGU0066	BUTTON, EDIT	(K)
29	RGU0066-S	BUTTON, EDIT	(S)
30	RGU0067	BUTTON, REVERSE	(K)
30	RGU0067-S	BUTTON, REVERSE	(S)
31	RGU0137	BUTTON ASS'Y, DOLBY NR	(K)
31	RGU0139	BUTTON ASS'Y, DOLBY NR	(S)
32	RGU0070	BUTTON, EJECT	(K)
32	RGU0070-S	BUTTON, EJECT	(S)
33	RKF0020A-1	CASSETTE HOLDER	
33-1	QBP2006A	SPRING, TAPE PRESSURE	
34	RMA0051	EJECT ANGLE	
35	RJR0016	BRACKET	
36	RME0026	SPRING, CASSETTE HOLDER	
37	RML0041	EJECT LEVER (L)	
38	RML0042	EJECT LEVER (R)	
39	RMM0014	EJECT ROD	
40	RMR0153	DAMPER GEAR (L) ASS'Y	
41	RMR0154	DAMPER GEAR (R) ASS'Y	
42	RGK0076	METER FILTER	
43	RJF0001	FL HOLDER	
		PACKING MATERIAL	
P1	RPG0104	CARTON BOX	(K) (PC, E, E5, EB, EG, GC, GN)
P1	RPG0105	CARTON BOX	(S)
P1	RPG0109	CARTON BOX	(K) (P)
P2	RPN0087A	PAD, FRONT	
P3	RPN0087B	PAD, BACK	
P4	SPS5185	PAD, ACCESSORIES	
P5	SPP756	PROTECTION COVER	(K)
P5	XZB50X65B02	PROTECTION COVER	(S)
		ACCESSORIES	
A1	RQF0070	INSTRUCTION MANUAL	(EG)
A1	RQF0085	INSTRUCTION MANUAL	(E, E5)

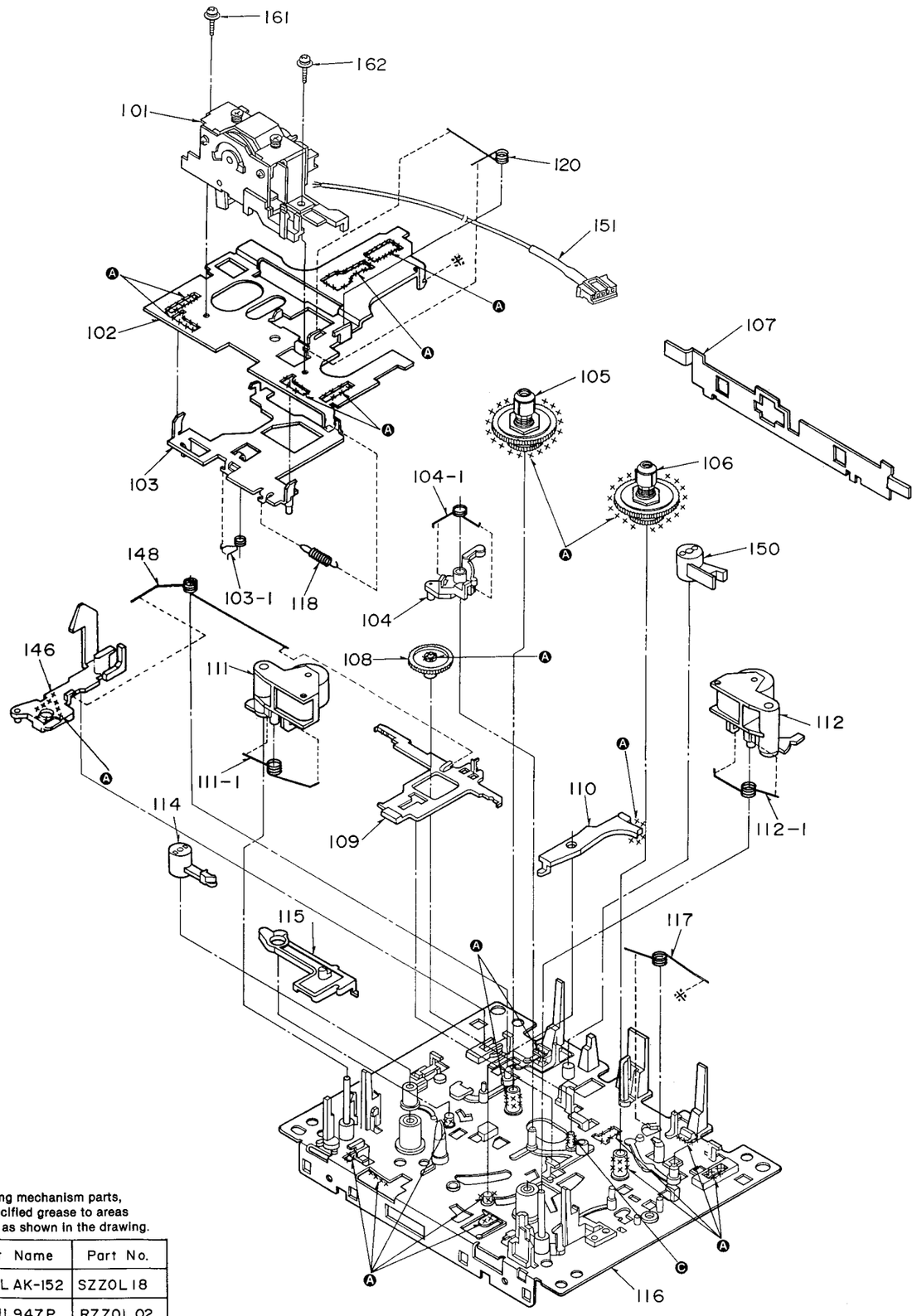
Ref. No.	Part No.	Part Name & Description	Remarks
A1	RQF0086	INSTRUCTION MANUAL	(EB)
A1	RQF0087	INSTRUCTION MANUAL	(GC, GN)
A1	RQF0088	INSTRUCTION MANUAL	(P)
A1	RQF0089	INSTRUCTION MANUAL	(PC)
A2	SFDAC05E03	POWER CORD	(E, E5, EG) ⚠
A2	SJA173-1	POWER CORD	(GN) ⚠
A2	SJA175	POWER CORD	(PC) ⚠
A2	SJA175-1	POWER CORD	(P) ⚠
A2	SJA193-1	POWER CORD	(EB) ⚠
A2	RJA0004	POWER CORD	(GC) ⚠
A3	RFA006	CORD	⚠
A4	SJP2257T	REMOTE CONTROL CORD	(P, PC)
A5	SJP9215	AC PLUG ADAPTOR	(GC) ⚠

■ REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Remarks
		MECHANISM PARTS LIST	
DECK 1			
101	RXQ0021	HEAD BLOCK (PLAYBACK)	
102	RUA793ZD	HEAD BASE	
103	RZLAR300	ROD	
103-1	RUW143Z	SPRING	
104	1UB0089ZA	ARM	
104-1	RUW148ZA	SPRING	
105	1DM0018ZA	REEL TABLE (R)	
106	1DM0017ZA	REEL TABLE (F)	
107	RUB502Z	LEVER	
108	RDG5772Z	GEAR	
109	RUB508ZA	BRAKE ROD	
110	RUB506Z	LEVER	
111	1UB0088ZA	ARM (R)	
111-1	RUW141Z	SPRING	
112	1UB0087ZA	ARM (F)	
112-1	RUW140Z	SPRING	
114	RNL1Z	DAMPER ARM	
115	RUB503Z	MAIN LEVER	
116	RZUSX980	CHASSIS	
117	RUW142ZA	SPRING	
118	RUD105Z	SPRING	
120	RUW139ZA	SPRING	
121	RFM134ZA	DC MOTOR	
122	1UE0015ZA	PLUNGER	
123	RUB428Z	MOVING IRON CORE	
124	RUL1030XA	ANGLE	
125	RMD5014Z	ANGLE	
126	RDG5927ZA	GEAR	
127	1DW0053ZA	FLYWHEEL (F)	
127-1	RNW139ZA	WASHER	
128	1DW0054ZA	FLYWHEEL (R)	
128-1	RNW138Z	WASHER	
129	1DG0006ZA	REEL TABLE GEAR	
130	RUB513Z	ARM	
131	1UB0091ZA	LEVER	
131-1	RUW146ZA	SPRING	
132	1DR0011ZA	MAIN PULLEY	
133	RDV90ZB	BELT	
134	RDG5769ZA	REEL TABLE GEAR	
135	RUQ10Z	SPRING	
136	RUW145ZA	SPRING	
137	1UB0090ZA	ROD	
137-1	RUB512Z	ROD	
138	RDG5773ZA	GEAR	
139	RUQ30Z	SPRING	
140	RUS609Z	TAPE PRESSURE SPRING	
141	RUB514Z	LEVER	
142	RUW147ZA	SPRING	
143	RUB515Z	LEVER	
144	RUB509ZA	LEVER	
145	RDV108ZA	CAPSTAN BELT	
146	RUB541ZB	EJECT ROD (L)	
148	RUW167ZA	SPRING	
149	RHG3032Z	RUBBER CUSHION	
150	RNL180ZA	DAMPER ARM	
151	REX0061	LEAD WIRE BLOCK	
161	XTW2+6L	SCREW	
162	XTW2+8L	SCREW	
163	XTN26+7J	SCREW	
164	XTN26+16F	SCREW	
165	XTW2+8S	SCREW	
166	XYC2+JF16	SCREW	
167	QHQ1303	SCREW	
168	SJT30744-H	CONNECTOR (7P), J951	
169	XYN26+F6	SCREW	

■ MECHANICAL PARTS LOCATION

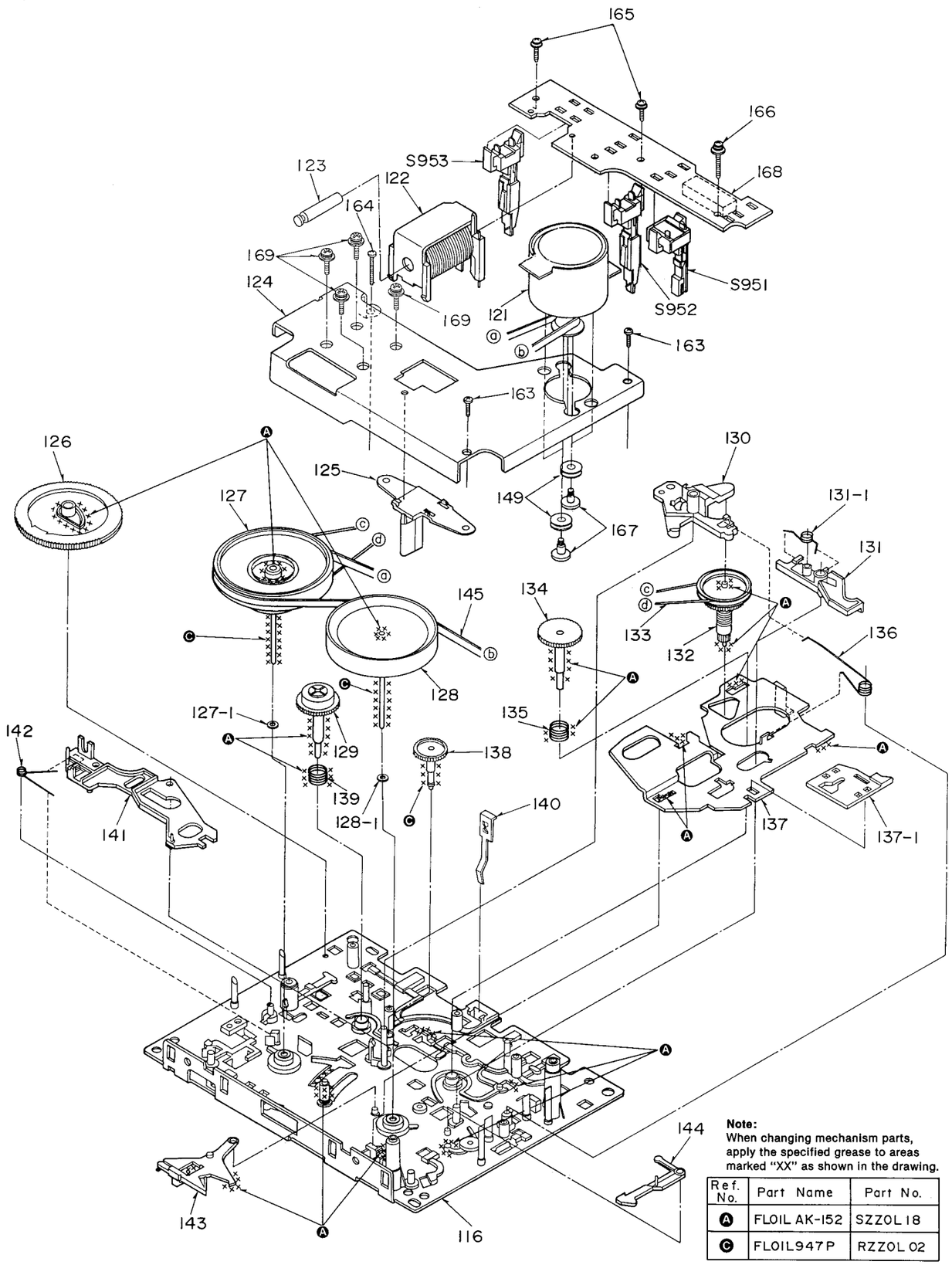
(DECK 1: Top View)



Note:
When changing mechanism parts, apply the specified grease to areas marked "XX" as shown in the drawing.

Ref. No.	Part Name	Part No.
Ⓐ	FLOIL AK-152	SZZOL18
Ⓒ	FLOIL947P	RZZOL02

(DECK 1: Bottom View)

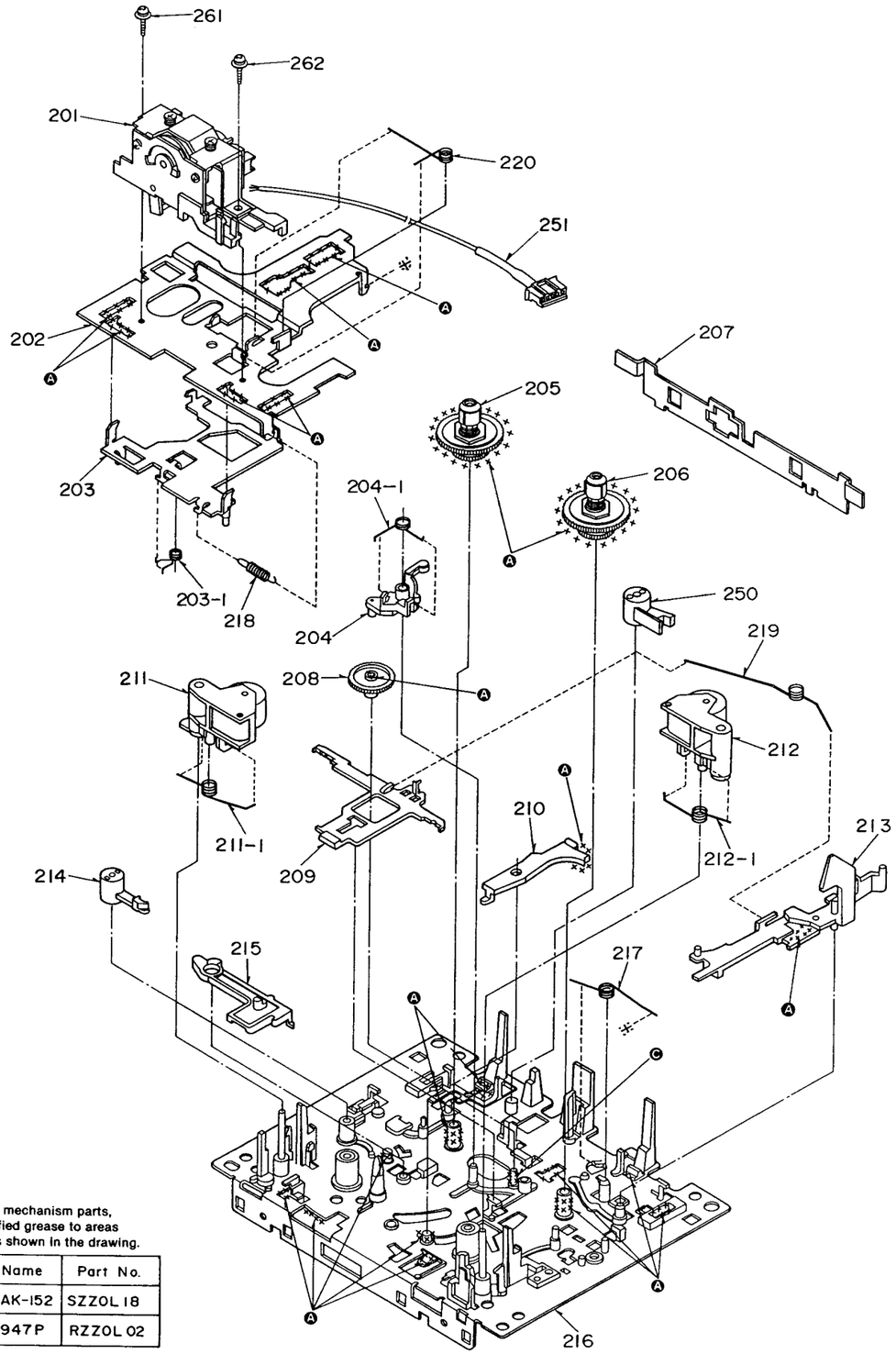


Note:
When changing mechanism parts, apply the specified grease to areas marked "XX" as shown in the drawing.

Ref. No.	Part Name	Part No.
Ⓐ	FLOIL AK-152	SZZOL18
Ⓒ	FLOIL947P	RZZOL02

■ MECHANICAL PARTS LOCATION

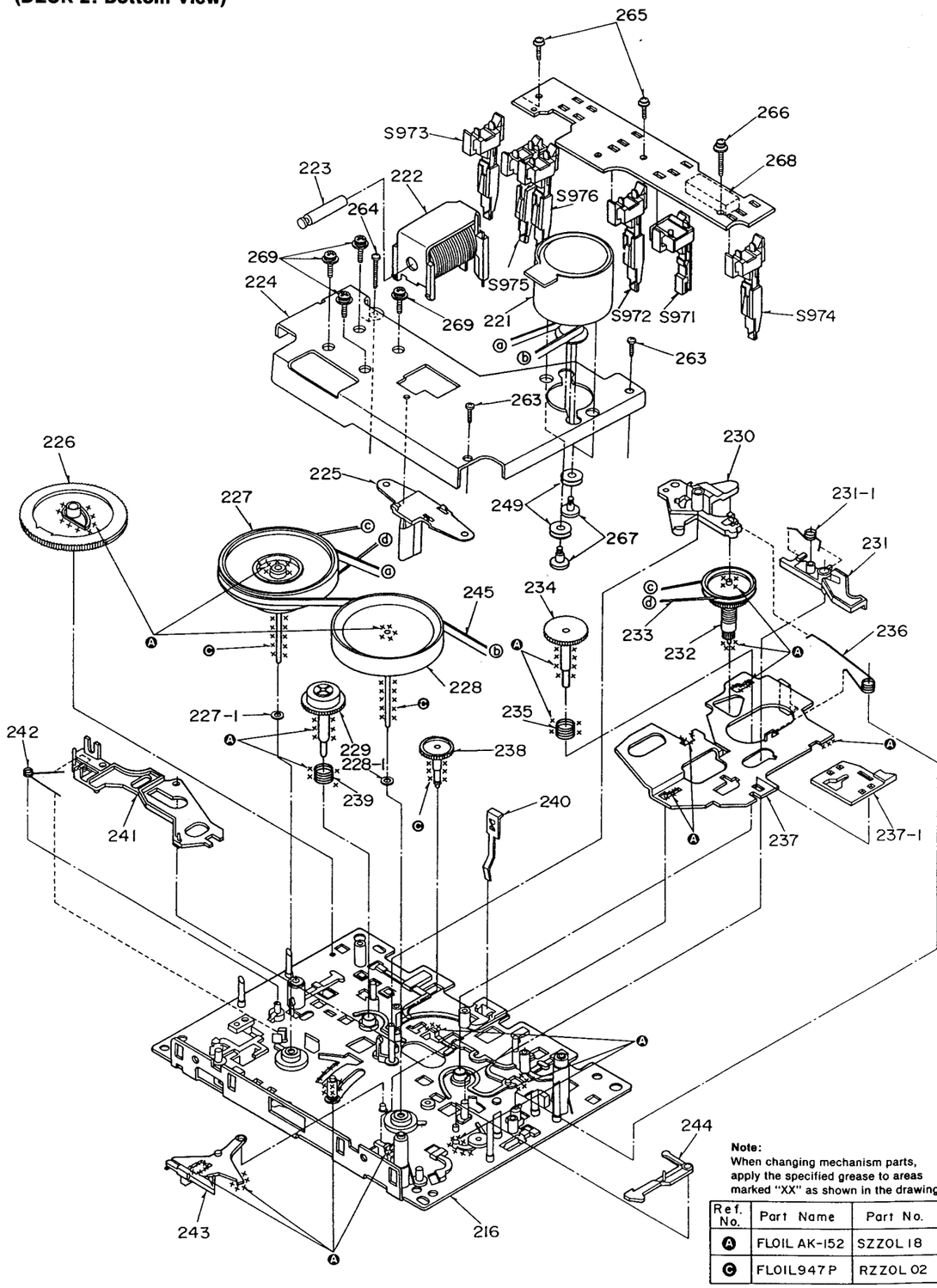
(DECK 2: Top View)



Note:
When changing mechanism parts, apply the specified grease to areas marked "XX" as shown in the drawing.

Ref. No.	Part Name	Part No.
Ⓐ	FL0IL AK-152	SZZ0L 18
Ⓒ	FL0IL947P	RZZ0L 02

(DECK 2: Bottom View)



Note:
When changing mechanism parts, apply the specified grease to areas marked "XX" as shown in the drawing.

Ref. No.	Part Name	Part No.
Ⓐ	FL0IL AK-152	SZZ0L 18
Ⓒ	FL0IL947P	RZZ0L 02

■ REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Remarks
		MECHANISM PARTS LIST	
DECK 2			
201	RXQ0019	HEAD BLOCK (REC. /PLAYBACK)	
202	RUA793Z	HEAD BASE	
203	RZLAR300	ROD	
203-1	RUW143Z	SPRING	
204	1UB0089ZA	ARM	
204-1	RUW148ZA	SPRING	
205	1DM0018ZA	REEL TABLE (R)	
206	1DM0017ZA	REEL TABLE (F)	
207	RUB502Z	LEVER	
208	RDG5772Z	GEAR	
209	RUB508ZA	BRAKE ROD	
210	RUB506Z	LEVER	
211	1UB0088ZA	ARM (R)	
211-1	RUW141Z	SPRING	
212	1UB0087ZA	ARM (F)	
212-1	RUW140Z	SPRING	
213	RUB507Z	EJECT ROD (R)	
214	RNL1Z	DAMPER ARM	
215	RUB503Z	MAIN LEVER	
216	RZUSX980	CHASSIS	
217	RUW142ZA	SPRING	
218	RUD105Z	SPRING	
219	RUW144ZA	SPRING	
220	RUW139ZA	SPRING	
221	RFM134ZA	DC MOTOR	
222	1UE0015ZA	PLUNGER	
223	RUB428Z	MOVING IRON CORE	
224	RUL1030XA	ANGLE	
225	RMD5014Z	ANGLE	
226	RDG5927ZA	GEAR	
227	1DW0053ZA	FLYWHEEL (F)	(P, PC, GC, GN)
227	1DW0053ZB	FLYWHEEL (F)	(E, E5, EB, EG)
227-1	RNW139ZA	WASHER	
228	1DW0054ZA	FLYWHEEL (R)	(P, PC, GC, GN)
228	1DW0054ZB	FLYWHEEL (R)	(E, E5, EB, EG)
228-1	RNW138Z	WASHER	
229	1DG0006ZA	REEL TABLE GEAR	
230	RUB513Z	ARM	
231	1UB0091ZA	LEVER	
231-1	RUW146ZA	SPRING	
232	1DR0011ZA	MAIN PULLEY	
233	RDV90ZB	BELT	
234	RDG5769ZA	REEL TABLE GEAR	
235	RUQ10Z	SPRING	
236	RUW145ZA	SPRING	
237	1UB0090ZA	ROD	
237-1	RUB512Z	ROD	
238	RDG5773ZA	GEAR	

Ref. No.	Part No.	Part Name & Description	Remarks
239	RUQ30Z	SPRING	
240	RUS609Z	TAPE PRESSURE SPRING	
241	RUB514Z	LEVER	
242	RUW147ZA	SPRING	
243	RUB515Z	LEVER	
244	RUB509ZA	LEVER	
245	RDV108ZA	CAPSTAN BELT	
249	RHG3032Z	RUBBER CUSHION	
250	RNL180ZA	DAMPER ARM	
251	REX0059	LEAD WIRE BLOCK	
261	XTW2+6L	SCREW	
262	XTW2+8L	SCREW	
263	XTN26+7J	SCREW	
264	XTN26+16F	SCREW	
265	XTW2+8S	SCREW	
266	XYC2+JF16	SCREW	
267	QHQ1303	SCREW	
268	SJT31044-H	CONNECTOR (10P), J971	
269	XYN26+F6	SCREW	

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